IMPERIAL IRRIGATION DISTRICT

GOVERNMENT, REGULATORY & PUBLIC AFFAIRS DEPARTMENT
P.O. BOX 937 • IMPERIAL, CA 92251

September 26, 2007

California Energy Commission
Dockets Office, MS-4
Re: Docket No. 06-IEP-1F
1516 Ninth Street
Sacramento, CA 95814-5512

Sent electronically to: docket@energy.state.ca.us

To Dockets Office

From: The Imperial Irrigation District

Subject: 2007 IEPR - Transmission (06-IEP-1F)

Dear Sir or Madam:

Enclosed please find the comments of the Imperial Irrigation District in regards to the Joint Committees Draft 2007 Strategic Transmission Investment Plan (06-IEP-1F), due on September 27, 2007. Should you have any questions regarding this filing please contact me at the address above and/or number listed below. Thank you for your kind attention.

Sincerely,

David Brammer

External Regulatory Affairs Specialist
(760) 339-9738
dwbrammer@iid.com

Comments from the Imperial Irrigation District Regarding the California Energy Commission's Strategic Transmission Investment Plan 06-IEP-1F September 27, 2007

The Imperial Irrigation District ("IID") files its Comments in response to the California Energy Commission's August 30, 2007 Strategic Transmission Investment Plan prepared in support of the 2007 Integrated Energy Policy Report Proceeding (06-IEP-1F). IID recognizes the hard work and effort of the CEC Staff in preparing the report and supports the efforts of the CEC to address the Greenhouse Gas ("GHG") policy objectives of the State of California. Furthermore, IID agrees that Coordinated Renewable Generation and Renewable Transmission Infrastructure Planning and Permitting are essential to reaching those objectives.

IID also believes in extensive stakeholder involvement and coordination in achieving policy objectives and has participated extensively in the process. This can be seen in IID's participation, not only in the preparation of this report through its comments, but going back to its sponsorship of the Imperial Valley Study Group ("IVSG") which was integral in addressing the Valley's transmission needs. Currently, IID is in the process of upgrading its transmission facilities and is in discussion with counterparties for potential interconnection development.

IID is well aware of the value of the geothermal resources that reside in its service area and the need for additional transmission infrastructure both inside and outside of IID's service area necessary to transport those resources throughout California, as we seek to achieve the state's renewable resource goals.

On September 13, 2007 IID and CEC Staffs met to discuss the draft 2007 Strategic Transmission Investment Plan. IID's intent was to explain the status of the Green Path Coordinated Projects and assure the CEC that IID is actively implementing and assessing transmission upgrades on its system. For example, IID has recently completed a review of its Green Path project for the benefit of its three newly elected board members to assure them that the project's draft agreements correlated with the project's original intent. Throughout the review, IID continued to make progress on the other two elements of the coordinated Green Path Projects: Green Path North and IID's Transmission Expansion Plan.

On November 2005, the IID Board authorized $3.3 million for its transmission expansion plan development activities (a result of the IVSG Report). Subsequent to that decision, the IID Board has approved the following:

1. Two major transmission projects that will increase the import and export capability to the CAISO by up to 600MW at the Imperial Valley Substation. The total cost of the two projects is estimated to be $19.5 million.

2. The Green Path North development agreement, a 500 kV line from Devers II to Hesperia substations.
3. An MOA with SDG&E and Citizens Energy for the development of the Green Path Southwest portion of the Sunrise Project.
4. Acquisition of BLM's Record of Decision for the New Coachella Valley to Devers II transmission line project, which will interconnect the IID system to the Green Path North. This project will allow a new pathway to export up to 1600 MW of renewable resources.
5. IID is working with SCE to re-rate Path 42 which will increase export of renewable resources from the current 600 MW to 700 MW without any construction. Furthermore, IID is working with SCE to increase the export capability on Path 42 beyond 700 MW.

Also, IID Staff"s ongoing negotiations with San Diego Gas and Electric, Citizens Energy, Los Angeles Department of Water and Power, and the Southern California Public Power Authority on these Green Path Projects.

IID is an active participant in several California Independent System Operator initiatives including:

- CAISO Remote Resource Interconnection Policy Stakeholder Process
- California Sub-Regional Planning Group
- California Renewable Energy Transmission Initiative

IID requests that the following revisions be made to the 2007 Strategic Transmission Investment Report in order to reflect a more realistic interpretation of IID's transmission expansion projects.

The report repeats several times that the IID Board's re-evaluation of some of its transmission projects could impact renewable generation build out in the Imperial Valley. Obviously, any reconsideration of a project may result in change, but the speculative conclusion drawn on page 7 of the report is not IID's intention, *"If, because of a mandate requiring a narrow view of project benefits, the Imperial Irrigation District Board is unable to approve existing agreements for development of the Green Path Coordinated Projects, federal or state participation could help facilitate planning and permitting decisions."* As outlined above IID ***is*** taking the necessary steps to complete its transmission upgrades and ***is*** moving forward with negotiations and development of all the Green Path Coordinated Projects. IID's project review process should not be interpreted as a "narrow view" of project benefits. In fact, many of IID transmission initiatives such as the Green Path North and Green Path Southwest objectives are not necessarily to serve IID load but rather to provide adequate transmission to export renewable resources to the rest of California and insure enhanced reliability to both the IID transmission system and to the western grid. IID is moving forward with projects that will not only benefit the IID by providing additional import capacity and reliability but will provide new generators transmission capacity for the export of resources out of the

Imperial Valley. That being said we believe the following specific report comments should be revised.

On page 16 -17 the report has omitted any reference to the time, funding and resource commitment of IID to the Imperial Valley Study Group. Furthermore, IID is concerned that the report could give the impression that the Green Path project was created without any IID input.

On page 19, it states "The status of the IID portion of the (Green Path) project is currently *in flux* (italics added) because the IID Board of Governors (sic) is re-evaluating agreements between IID and other project participants." The facts are that IID has committed millions of dollars toward the five main projects described above and has in fact secured Rights-of-Way and also has performed an extensive amount of engineering and environmental analysis.

On page 21, the statement concludes that the IID Transmission Phase 1 Upgrade is *"in flux"* because of the Boards re-evaluation of the project. Please amend for reasons noted above.

On page 34, the report recognizes IID's participation in the long-term strategic planning process addressing the very issues of concern. The report should not conclude that IID may be impeding progress and then laud us in our efforts to participate in the process, which IID is committed to continue.

On page 51, please note IID's participation in the development of the CRETI (now RETI) and the fact that IID serves on the Steering Committee for RETI.

On pages 52-53, please note IID's participation in the Imperial Valley Study Group, a group that IID has invested a lot of time and resources into.

On page 93, please amend the comment that IID's Green Path and transmission upgrade projects are *"in flux"*. For the reasons noted above.

On page 100, CEC Staff notes that "The IID plays a key role in the developments of the projects and could, if it chooses, prevent their development". We request a clarification as IID must and is committed to (1) process all generation interconnection in a fair and open manner and therefore cannot "prevent" any generation development, (2) IID has always encouraged renewable development since the development of renewables are vital to the local economy, and (3) IID has never declined a generation interconnection request and is unequivocally committed to develop its infrastructure to harness the developments of renewable resources.

The report also notes that "IID is concerned that its connection within SDG&E will comprise control of transmission resources in its own service territory and wants to make sure that transmission facilities for all three projects provide benefits to IID itself"

As previously mentioned, if IID would have applied the "narrow" vision of supporting projects that only benefit IID, the list of the projects would be very small. The amount of projects that IID is actively developing, in most cases, will assist the State in meeting the RPS requirements. We understand that transmission projects should be looked at from the system perspectives and not from the local perspectives. Furthermore, all the transmission expansions that IID is committed to perform are being paid by IID ratepayers and IID's concern is that these transmission expansion projects will not be stranded. IID does not have a transmission recovery mechanism as the IOUs and we are very careful in allocating dollars to projects that can be fully utilized either by our load or by other transmission customers.

On page 104, please amend the comment that the IID Board has a "narrow view" of its approval policy. As previously addressed, this comment is incorrect and we request it be removed.

On page 141, IID requested the following comment modification. "While IID indicated that no **new** corridors are currently defined for the projects identified in their response, they are in the process of identifying corridors for future transmission projects.

In conclusion, while the CEC Report reflected the perception that IID and its Board of Directors had not been actively pursuing its transmission initiatives, the actuality is just the opposite. IID respectfully requests that the references that reflect the misperceptions noted above be removed from the final version of the Joint Committee's Draft Report. IID is committed to working with the CEC and all parties in order to find solutions to the vast energy challenge facing not only the Imperial Valley, but all of California. Therefore, the report should accurately communicate IID's ongoing transmission plans and projects backed by their Board approved commitments demonstrated to date.

INDEX

FILE NAME

1. Attachment 1 - WECC IID"s 2007 Progress Report

2. Attachment 2 - BLM GRANTS INFORMATION 9-18-07

   Payment for BLM's right of way grant for a proposed 500kV transmission line from Blythe area to Devers substation. (Desert southwest project)

3. Attachment 3 - Mayor Work Authorizations

   - ECSS Bank 4. The ECSS Bank Project consists of installing a new 230\92kV 300MVA transformer at ECSS. The project also includes making the necessary bus modifications to accommodate the new bank.

   - IV Dixieland. The IV Sub–Dixieland 230kV Interconnection Project consists in building a new single circuit 230kV line between Imperial Valley Substation and Dixieland Substation. The approximate length of the new 230 kV line will be 8.5 miles.

   - Transmission Expansion Plan (TEP). The project consists of project development activities such as permitting, environmental work, ROW assessment and preliminary engineering design required for the transmission upgrade and rebuilding of certain sections of the 161/92kV transmission system to create a 230kV loop across IID service area

4. Attachment 4 - 2009 SPS WECC Report.

   Path 49 short term upgrade SPS Report, 2009 WECC report with ECSS Bank No.4 300MVA 230/92kV transformer and IV-Dixieland 230kV project analysis.

5. Attachment 5 - IID Presentation to WATS 7-31-07 Rev4

6. Attachment 6 - Purchase orders for the acquisition of two 300MVA, 230/92kV transformers for El Centro Switching Station and Dixieland Station

IMPERIAL IRRIGATION DISTRICT

February 28, 2007

Via: Email
Fed Ex

Mr. Ken Wilson
WECC Technical Staff
University of Utah Research Park
615 Arapeen Drive, Suite 210
Salt Lake City, Utah 84108-1288

Mrs. Dana Cabbell
WECC Technical Studies Subcommittee Chairman
Southern California Edison (SCE)
P.O. Box 900
Rosemead, CA 94105

Subject: Imperial Irrigation District – Annual Progress Report

Dear Mr. Wilson and Ms. Cabbell:

In accordance with WECC Progress Report Policies and Procedures, the following is the Imperial Irrigation District's 2007 Annual Progress Report.

If you have any questions please contact me at (760) 482-3450

Sincerely yours,

David L. Barajas

David L Barajas
TSS Representative
(760) 482-3450
dlbarajas@iid.com

CC: J. Sandoval – IID
J. Barrientos – IID
TSS Members

I. SUBSTATION PROJECTS:

1. Ave 58 Substation:

Replace the existing 161/92kV 125 MVA Auto-Transformer with a 161/92kV 300MVA Auto-Transformer.

Estimated Completion Date: December 2009

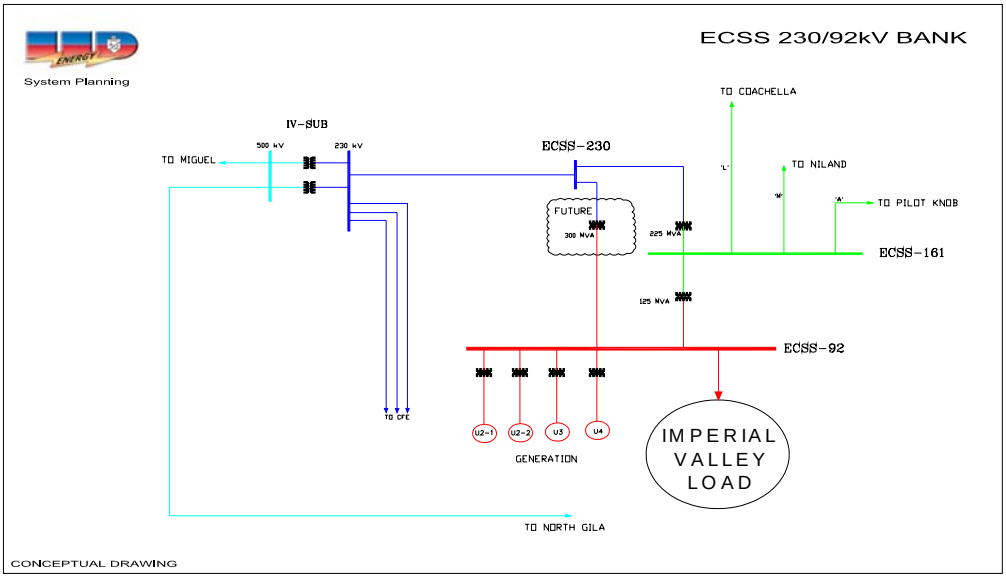
2. El Centro Switching Station (ECSS) 230kV Bank addition:

Install a new 230/92kV 300MVA Auto-Transformer at El Centro Switching Station

Estimated Completion Date: December 2008

The project consists of installing a new 230/92kV transformer and related 230kV switchyard modifications at existing ECSS.

The following is a simplified one line diagram showing the location of the proposed Transformer.



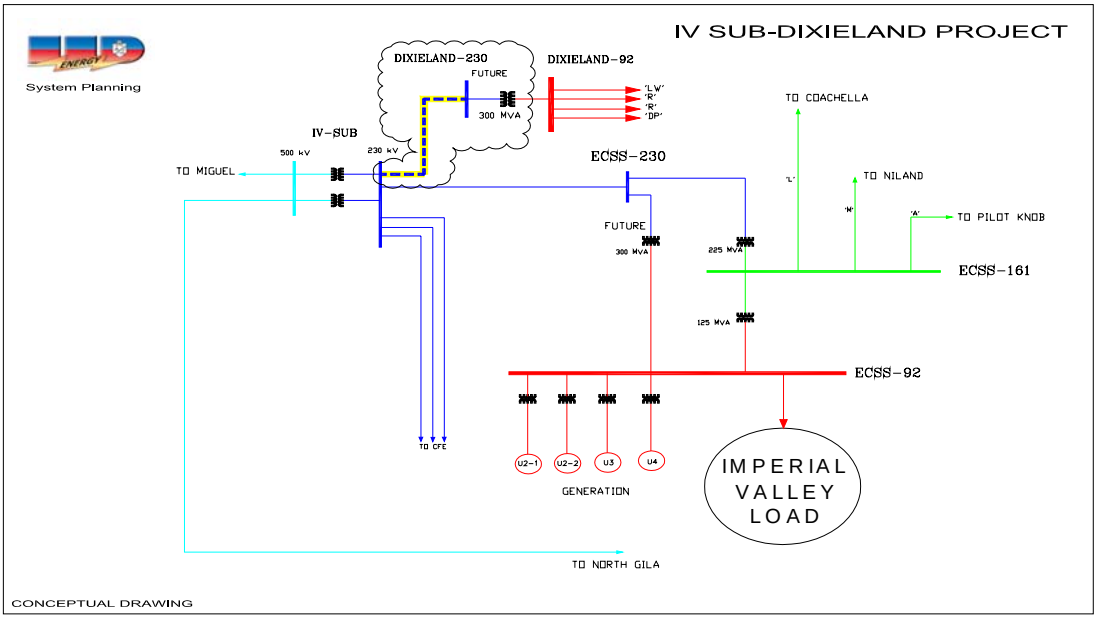
3. Dixieland Substation 230kV Additions:

Install a new 230/92kV 300 MVA Auto-Transformer bank as part of the Imperial Valley Sub-Dixieland Substation interconnection project.

Estimated Completion Date: December 2009

Build a 230kV ring bus to accommodate a new 230/92kV 300MVA transformer and the proposed line to Imperial Valley Substation.

The following drawing depicts IV Sub-Dixieland Tie line Interconnection project.



II. TRANSMISSION LINE PROJECTS:

1. Single Circuit 230kV Transmission Line from Imperial Valley Substation to Dixieland Substation.

The project will involve construction of a single circuit 230kV transmission line between IV Substation and Dixieland Substation.

Estimated Completion Date: December 2009

IMPERIAL IRRIGATION DISTRICT

VIA: Fed-Ex Overnight

September 12, 2007

Mr. John Kalish
Field Manager
United States Department of the Interior
Bureau of Land Management
Palm Springs-South Coast Field Office
690 West Garnet Ave
P.O. Box 581260
North Palm Springs, CA 92258-1260

Dear Mr. Kalish:

Enclosed you will find a check for $43,496.23 to cover the partial payment of the right-of-way (ROW) grant (BLM Form 2800-14) for the proposed 500 Kv transmission line, serial number CACA 44491 ($40,878.97) and CACA 44491-A ($2616.26) to cover the first partial year from (April 30, 2007 to December 31,2007.

Please feel free to contact me with any questions or comments.

Sincerely,

David L. Barajas
General Superintendent,
System Planning and Contracts

Cc: M. Escalera (IID)
J.C. Sandoval (IID)
S. Ainsworth (IID)
J. Kelley (IID)
J. Montano (IID)
C. Downey (Law Offices)

IMPERIAL IRRIGATION DISTRICT
333 E. Barioni Blvd.
Imperial, CA 92251

Union Bank Of CA
So. Calif. Govt. Services
445 SO. Figueroa
Los Angeles, CA 90071

16-49
1210

150098681

THIS CHECK VOID 90 DAYS
AFTER DATE OF ISSUE

FORTY-THREE THOUSAND FOUR HUNDRED NINETY-SIX USD and 23/100

DATE
09/13/2007

AMOUNT
$43,496.23**

PAY TO THE ORDER OF: BUREAU OF LAND MANAGEMENT
X-3448

SIGNATURE HAS A COLORED BACKGROUND - BORDER CONTAINS MICROPRINTING

⑈150098681⑈ ⑆121000497⑆ 27400202 10⑈

CHECK DATE 09/13/2007
VENDOR NO 80000897
CHECK NO 150098681

Doc. No	Invoice Date	Invoice No	Description	Invoice Amount	Discount	Net Amount
19108348	09/10/2007	CACA-44491 B	RoW permit 4/30/07-12/31/07	43,496.23	0.00	43,496.23
Total				**43,496.23**	**0.00**	**43,496.23**

IMPERIAL IRRIGATION DISTRICT

VIA: Fed-Ex Overnight July 30, 2007

Mr. John Kalish
Field Manager
United States Department of the Interior
Bureau of Land Management
Palm Springs-South Coast Field Office
690 West Garnet Ave
P.O. Box 581260
North Palm Springs, CA 92258-1260

Dear Mr. Kalish:

Enclosed are two signed original copies of the right-of-way (ROW) grant (BLM Form 2800-14) for the proposed 500 Kv transmission line, serial number CACA 44491 and CACA 44491-A. Also enclosed is a check for $8,170.00 to cover the monitoring of construction and operations fees. Please return executed copies for Imperial Irrigation District (IID) records.

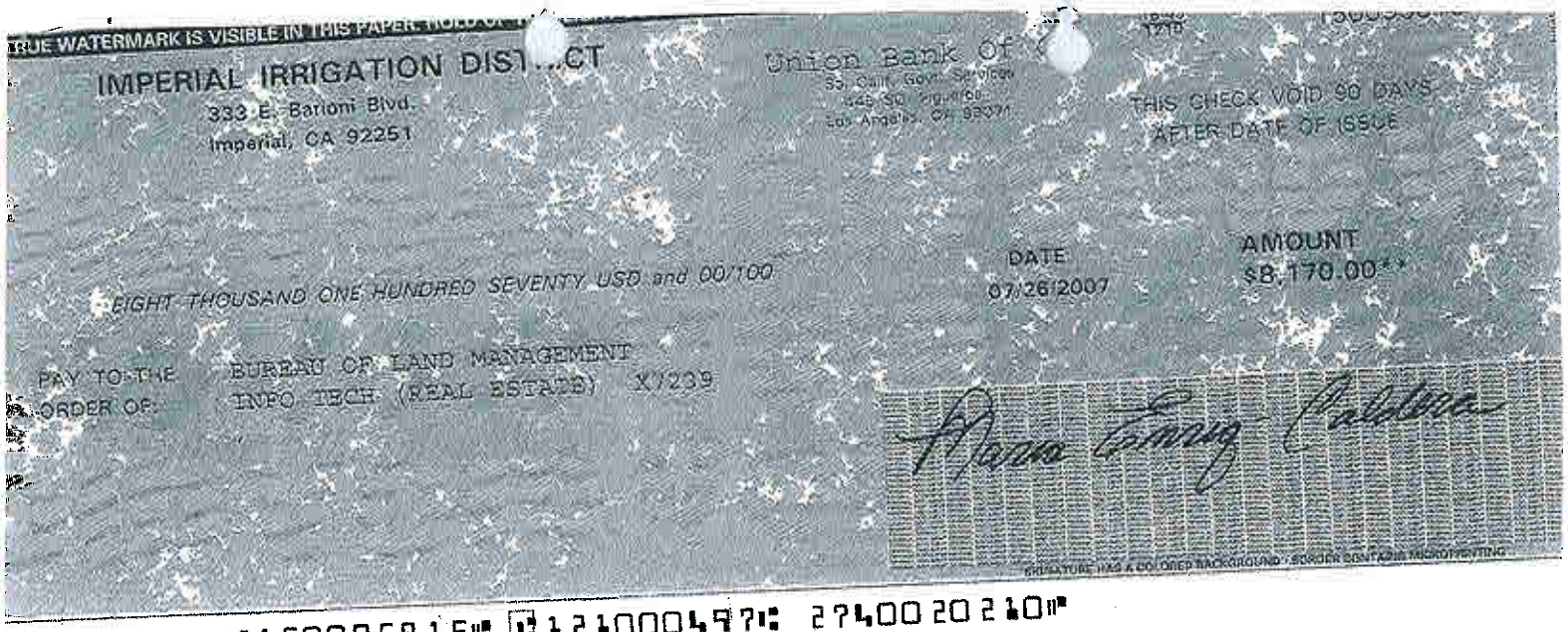
Please feel free to contact me with any questions or comments.

Sincerely,

David L. Barajas
General Superintendent,
System Planning and Contracts

Cc: M. Escalera (IID)
J.C. Sandoval (IID)
S. Ainsworth (IID)
J. Kelley (IID)
J. Montano (IID)
C. Downey (Law Offices)

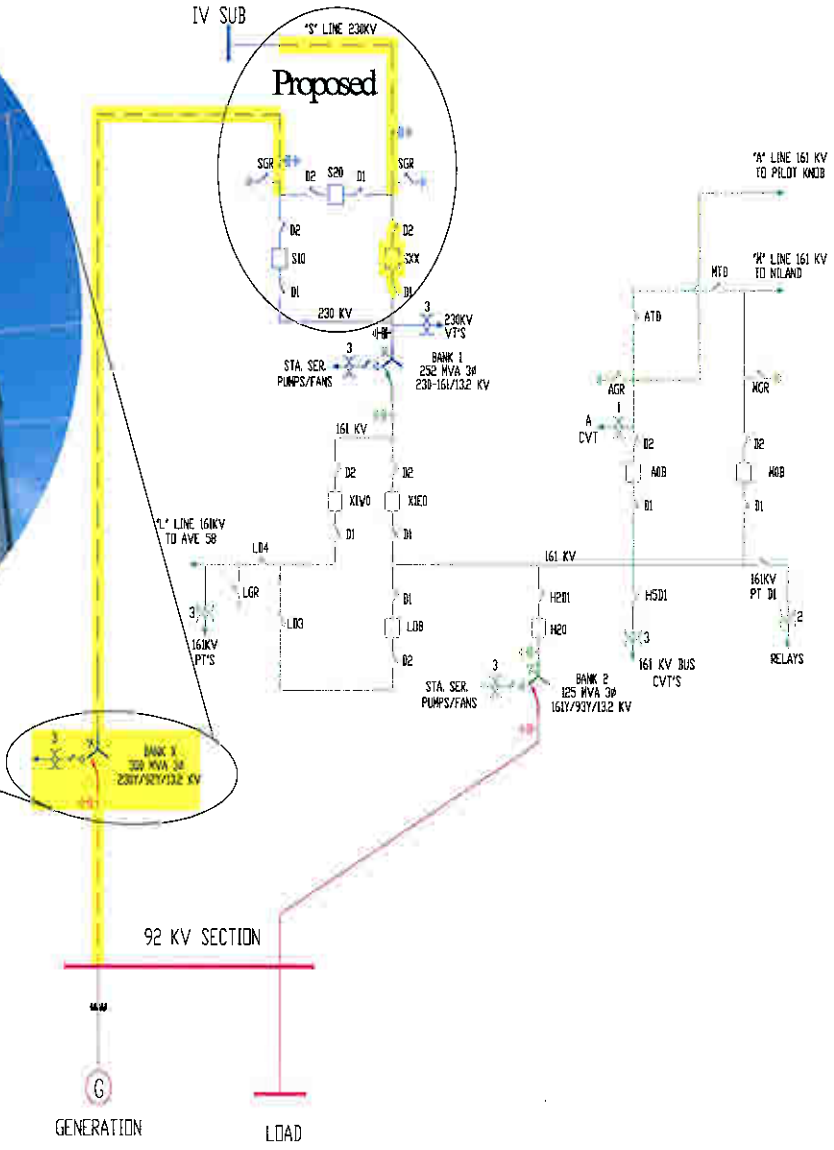
e-mailed 7/31/07 10:00 AM



CHECK DATE 07/26/2007
VENDOR NO 80000897
CHECK NO 150095815

Doc. No	Invoice Date	Invoice No	Description	Invoice Amount	Discount	Net Amount
19106287	04/18/2007	CACA-44491	ROW GRAND (BLM FOR 2800-14) SERIAL# CACA 44491	5,954.00	0.00	5,954.00
19106288	04/18/2007	CACA-44491-A	ROW GRAND (BLM FOR 2800-14) SERIAL# CACA 44491-A	2,216.00	0.00	2,216.00
Total				**8,170.00**	**0.00**	**8,170.00**

IMPERIAL IRRIGATION DISTRICT
ENERGY DEPARTMENT
SYSTEM PLANNING



ECSS Bank 4 Project
Major Work Authorization
P-6573
October 24, 2006

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LIST OF FIGURES

MAJOR WORK AUTHORIZATION
ECSS Bank 4 Project

INTRODUCTION

The information contained in this document outlines the design and installation of a 230/92kV, 300MVA transformer (Bank 4) at El Centro Switching Station as well as budgetary cost estimates, preliminary project schedule, information on the project team members and a project authorization sign-off sheet.

EXECUTIVE SUMMARY

The ECSS Bank No.4 project consists of installing a new 230/92kV 300MVA transformer at El Centro Switching Station (ECSS). The cost of the project is estimated at $ 4,585,900.00

Funding for this project has been allocated in the 2006, 2007 and 2008 capital budget. Budget allocation has been reviewed by the Energy Budget Administration. The project team may revise the total funding amount upon design completion and construction unit final review.

The estimated project in service date is November 6, 2008.

PROJECT DESCRIPTION

The ECSS Bank Project (Project Number P-6573) consists of installing a new 230\92kV 300MVA transformer at ECSS.
The project also includes the following:

- Add a new 230kV breaker, to the existing 230kV ring bus to create a new line bay position.
- Switch the existing 230kV "S" line to the new line bay position.
- Modify the protection and control schemes of the vacant "S" line bay position to protect and control the new Bank No.4, 230/92kV transformer.
- Modify the protection and control schemes of the existing 92kV "B" line bay position[1] to protect and control the new 230/92kV transformer. The "B" line bay position will provide interconnection to the 92kV side of the new ECSS Bank No.4 230/92kV transformer.
- Build a temporary 230kV line extension to interconnect the new 230/92kV transformer to the vacant 230kV "S" line bay.
- Install a new protection and control relay panel at the existing 92kV control house[2] to protect ECSS Bank No.4.

[1] The 92kV "B" line between Drop 4 and ECSS will be cut over to 230kV as part of the IID's Transmission Expansion Plan (TEP). This portion of the TEP will be performed in coordination with ECSS Bank #4 project.
[2] The Protection and control panel will be designed taking into consideration the final 230kV upgrades related to IID's Transmission Expansion Plan (component of the Green Path) scheduled by 2007-2009 years subject to board authorization.

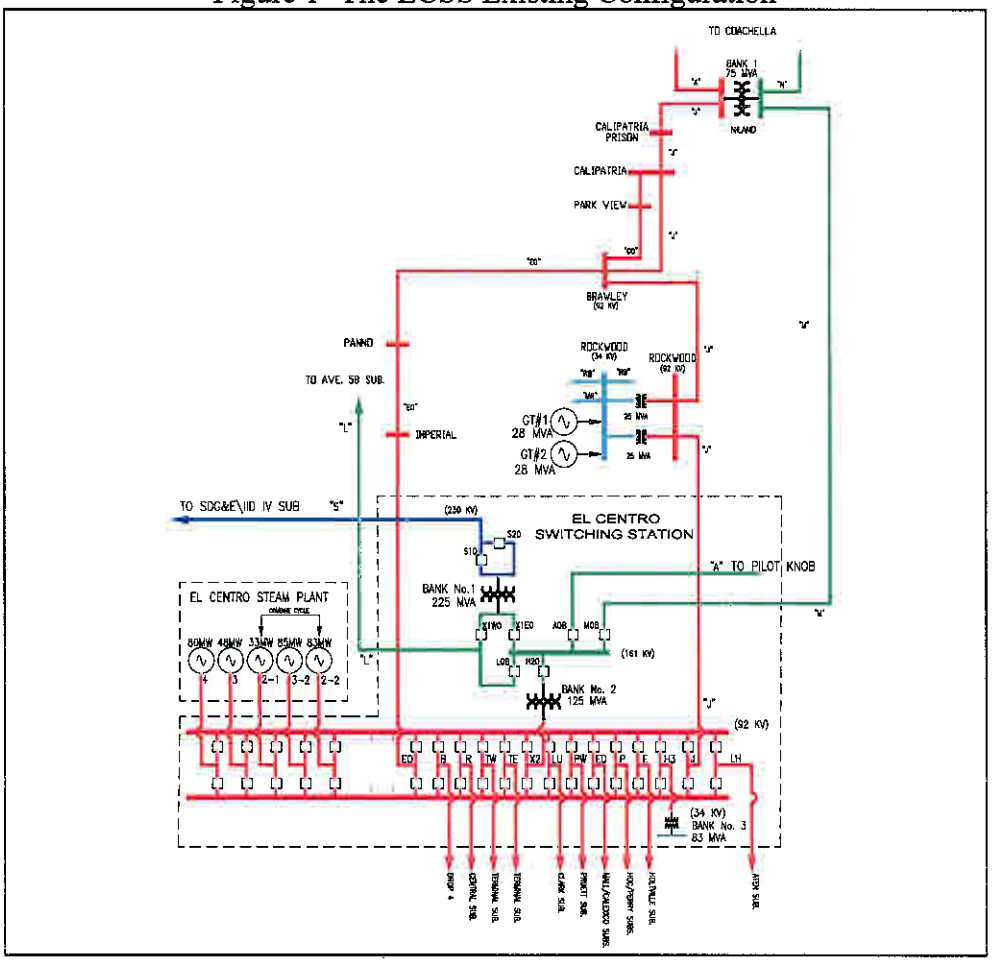
PROJECT JUSTIFICATION

El Centro Switching Station (ECSS) consists of 230kV, 161kV and 92kV bus sections, the 230kV section accommodates the 230kV "S" line to Imperial Valley substation[3] and the ECSS Bank No.1 230/161kV 225MVA transformer[4].

The ECSS 161kV bus provides interconnection to three 161kV lines[5] and to the ECSS Bank No2 161/92kV, 125MVA transformer.

The ECSS 92kV bus provides interconnection to the ECSS Bank No.2 and to the El Centro Steam Plant generation station (ECSP) that consists of ECU2-1, ECU2-2 (combined cycle), ECU3 and ECU4 with a total of 241.5MW of generation. The ECSS 92kV bus also interconnects to multiple 92kV transmission lines that provide the transmission path to multiple distribution substations in the Imperial Valley service area. The following figure depicts the existing configuration of ECSS.

Figure 1- The ECSS Existing Configuration



[3] Imperial Valley Substation is own by SDG&E and IID
[4] Power purchased by IID delivered through the Imperial Valley Substation is transmitted into IID electrical system through the 230kV "S" line and through the ECSS 230/161kV transformer.
[5] The "L" line to Ave 58 station, the "M" line to Niland, and the "A" line to Pilot Knob and

During summer, the majority of the energy consumed by the Imperial Valley service area is served by the El Centro Steam Plant (ECSP) and by the power that flows across the ECSS Bank No.2 161/92kV 125MVA transformer.

The Niland Bank No.1, 161/92kV 75MVA transformer also provides an energy source to the Imperial Valley service area (northern).

System Planning studies indicate that under certain Heavy summer conditions, the outage of ECU2-1,2 combined cycle power plant or the outage of the Niland 161/92kV transformer creates an overload[6] of the ECSS Bank No.2 161\92 kV 125MVA transformer.

In addition, the System Operation Control Center (SOC) dispatchers under routine bases during heavy summer conditions need to monitor and control the ECSS Bank No.2 loading. The loading of ECSS Bank No.2 is controlled by dispatching generation at ECSP and Gas Turbines at Rockwood generation station.

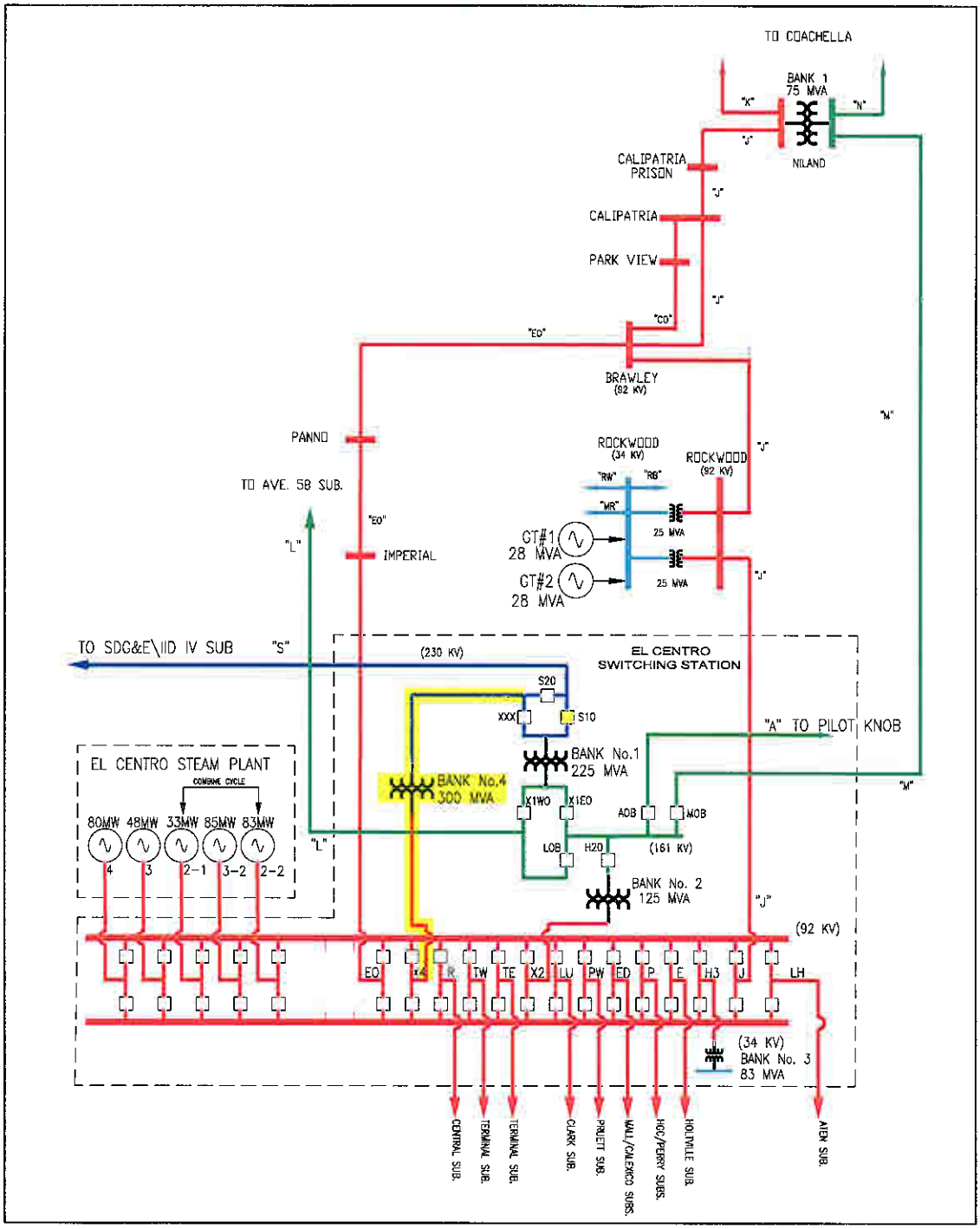
The ECSS Bank No.4 230/92kV 300MVA transformer will provide step down transformation from the ECSS 230kV Bus to the 92kV Bus, providing a parallel transformation path to the ECSS 230/161kV[7] and to the 161/92kV transformers. Figure 2 depicts the proposed configuration for ECSS.

The ECSS Bank No.4 will remove the potential overload of the ECSS Bank No.2 161/92kV transformer for the outage of the ECSS U2-1 and 2 and the Niland transformer outage.

The ECSS Bank No.4 will reduce the need to dispatch ECSP generation and Rockwood gas turbines to reduce the thermal overload of the ECSS Bank No.2 creating operation flexibility to acquire less cost generation resources outside of our service area.

[6] The magnitude of the overload is maintained within the emergency rating of the transformer, but will be increased due to load growth in the Imperial Valley service area.
[7] The ECSS Bank No.1 230\161kV will be relocated to Mecca 230kV Station

Figure 2- The ECSS 230/92KV 300MVA Transformer



PROJECT SCOPE:

1. No acquisition of land is necessary for this project.
2. Obtain the necessary permits (including access) and comply with the environmental requirements.
3. Perform the engineering design as described in the project description of this document. Refer to Figure 2 and Appendix A.
4. Order the necessary equipment and materials for this project. *(Staged materials and equipment ordered for other non-priority projects may be used in this project).*
5. Perform the construction of the project.
6. Complete the project by the in service date of November 6, 2008

REAL ESTATE REQUIREMENTS:

This authorization action is conditioned upon completion of all requirements specified in CEQA. This includes, but is not limited to an environmental assessment, an environmental impact review, or negative impact declaration. No property acquisition, right-of-way acquisition, or award of contracts for construction will be finalized until all requirements are complete.

ENVIRONMENTAL COMPLIANCE:

This authorization action is conditioned on completion, prior to commencement of work, of all requirements specified in the California Environmental Quality Act (CEQA), the Endangered Species Act (ESA) or other applicable environmental or wildlife resource laws. IID's Environmental Compliance Section (ECS) will review any of the proponent's environmental documentation to determine compliance with existing environmental regulations.

PROJECT FINANCING/ACCOUNTING

Project's Funding Source: Energy Revenues

Funding for this project has been allocated in the 2006, 2007 and 2008 Capital Budget and reviewed by the Energy Budget Administration.

The project cost has been estimated at $4,585,900.00 Included in the total cost is $416,900.00 for contingencies[8].

The project team will revise the total funding amount upon design completion and construction unit final review.

Estimated Summary of Probable Costs is as:

IID Engineering Services (Design)			
Substation	$	50,000.00	+
Relays	$	14,000.00	
Transmission	$	9,000.00	
Distribution	$	-	
Communication & SCADA	$	4,000.00	
	$	**77,000.00**	
Equipment and Material			
Substation	$	3,320,000.00	+
Relays	$	180,000.00	
Transmission	$	100,000.00	
Distribution	$	-	
Communication & SCADA	$	20,000.00	
	$	**3,620,000.00**	
Substation Exterior Work			
Wall Fence (South Side)	$	40,000.00	+
Grading	$	20,000.00	
Road Base	$	-	
Concrete (Foundations)	$	-	
Landscaping	$	-	
	$	**60,000.00**	

[8] *Project contingency is 10%*

Construction Labor				
Substation		$	276,000.00	+
Relays		$	17,000.00	
Transmission		$	89,000.00	
Distribution		$	-	
Communication & SCADA		$	10,000.00	
		$	**392,000.00**	
Operational Resources				
Real Estate		$	-	+
Environmental		$	7,000.00	
		$	**7,000.00**	
Administrative Cost				
Transmission Plannig		$	4,000.00	+
Distribution Planning		$	-	
Project Management		$	9,000.00	
		$	**13,000.00**	
Project Cost Estimate	Subtotal	$	4,169,000.00	+
	Contingency 10 %	$	416,900.00	
	Grand Total	**$**	**4,585,900.00**	
Transferred Material from Staged Inventory		$	-	
Total to Fund This Project		**$**	**4,585,900.00**	

COST-BENEFIT ANALYSIS AND RISK ASSESSMENT

OVERVIEW

The project to install the 230/92kV, 300MVA Bank No.4 at ECSS will upgrade the power transfer capacity from the 230kV bus to the 92kV bus. The project entails the engineering, equipment/materials and construction costs to improve the system on one of the most important points in the District's electrical grid. The in-service date for this project is anticipated to be November 6, 2008.

ASSUMPTIONS

Assumptions used for the cost-benefit analysis were based on information of previous and forecasted summer peaks scenarios as well as data received from the power system operation section. Part of the intent of the cost-benefit analysis and risk assessment is to assess the reasonableness of the data and the methodology used in constructing the model. It is outside the scope of this analysis to validate all of the underlying data. Specific assumptions used in this cost-benefit analysis include:

- Loss of the El Centro # 2 generator (approximately 115MW) will result in 110 % loading on the ECSS 161/92kV 125MVA Bank. Thus, will result in the need to dispatch gas turbines for a period of nine hours per day for sixty days. The gas turbines hourly cost was calculated by summing the fuel, auxiliary energy and variable O&M costs for each unit. The incremental cost between external and internal energy costs was used. The incremental cost was further reduced to 33% of the total to offer a more conservative figure.
- The cost of cold starting the gas turbines for sixty days was also reduced to a more conservative 33% figure.
- Corrective and preventive maintenance to the existing 161/92kV, 125MVA transformer were considered to be done on seasons when a schedule outage can be implemented without causing the utilization of the gas turbines.
- The proposed transformer bank is estimated to have a useful life of 34 years.
- An interest rate of 5% was used to calculate the project's funding cost. No adjustments were made to predict the variability of this rate over the useful life of this project.
- A discount or hurdle rate of 5.5% was used in this analysis.

PROJECT COSTS AND BENEFITS

The estimated cost for this project is $4,585,900.00 funding for this project will be allocated in the 2006, 2007 and 2008 capital budget, and reviewed by the Energy budget Administration. A 10% reserve is included in the estimate to handle contingencies and other unanticipated costs.

The primary benefit of this project is the avoided incremental cost of internal versus external energy and the gas turbine startup costs required to replace the generation in the event that a combination of loss and/or reduction of generation at the ECSS steam plant units representing a total approximately of 115MW occur. Other than project costs and the cost to fund the project, no other costs were identified.

PROJECT FINANCIAL METRICS

A cost-benefit analysis was completed on this project using a spreadsheet modeled for the evaluation of reliability projects. Based on the assumptions previously defined, the following table highlights the financial metrics resulting from the cost-benefit analysis:

FINANCIAL METRIC	RESULT
Net Present Value (NPV)	$3,357,242
Internal Rate of Return (IRR)	11 %
Estimated Payback Period	10 years
Return on Investment (ROI) Simple	152 %
Discounted	50%

The full cost-benefit spreadsheet has not been included in the MWA but is available if the reader desires additional information related to these results.

RISK ASSESSMENT

As previously stated this project is anticipated to increase the District's power capacity, and increase system reliability. Besides the benefit of overall system reliability, there will be economic benefits as well. The basic premise is that the planned system upgrades would reduce the dependence on running high cost generation units upon contingencies on ECSS steam plant generation units, especially on summer peak season.

"Estimated probable costs" were summarized in the Project Financing/Accounting section and a high-level project schedule was included in the appendices of the MWA. Project costs are preliminary in this stage of the project. Detailed design has not been completed. Therefore, contingency costs, equal to 10% of the total preliminary estimated costs, have been included to minimize the risk of project cost over-runs.

Not doing the project will have the IID grid at risk to be gradually constrained, especially at the time of the system peak demand.

PROJECT TEAM

Chief Financial Officer	**Robert J. Vodzack**
Department Manager	**John Federowicz**
Assit. Manager Project Owner	**J. C. Sandoval**
System Planning Project Owner	**D. L. Barajas**

Project Leads:

Project Planning Engineer	**Jorge Barrientos**
Project Manager	**Eddie Lutz**
Project Engineer (T & S)	**Oscar Kebriti**
Project Engineer (Telecom)	**Javier Jimenez**
Project Management Coordinator	**Walter Gonzalez**
Project Substation Construction/Inspection	**Al Minor**
Project Budget Coordinator	**Corina Jaramillo**
Project Siting	**Eddie Villanueva**
Environmental Compliance	**Mike Remington**
Real Estate	**Jim Kelley**

PROJECT AUTHORIZATION
SIGN-0FF SHEET

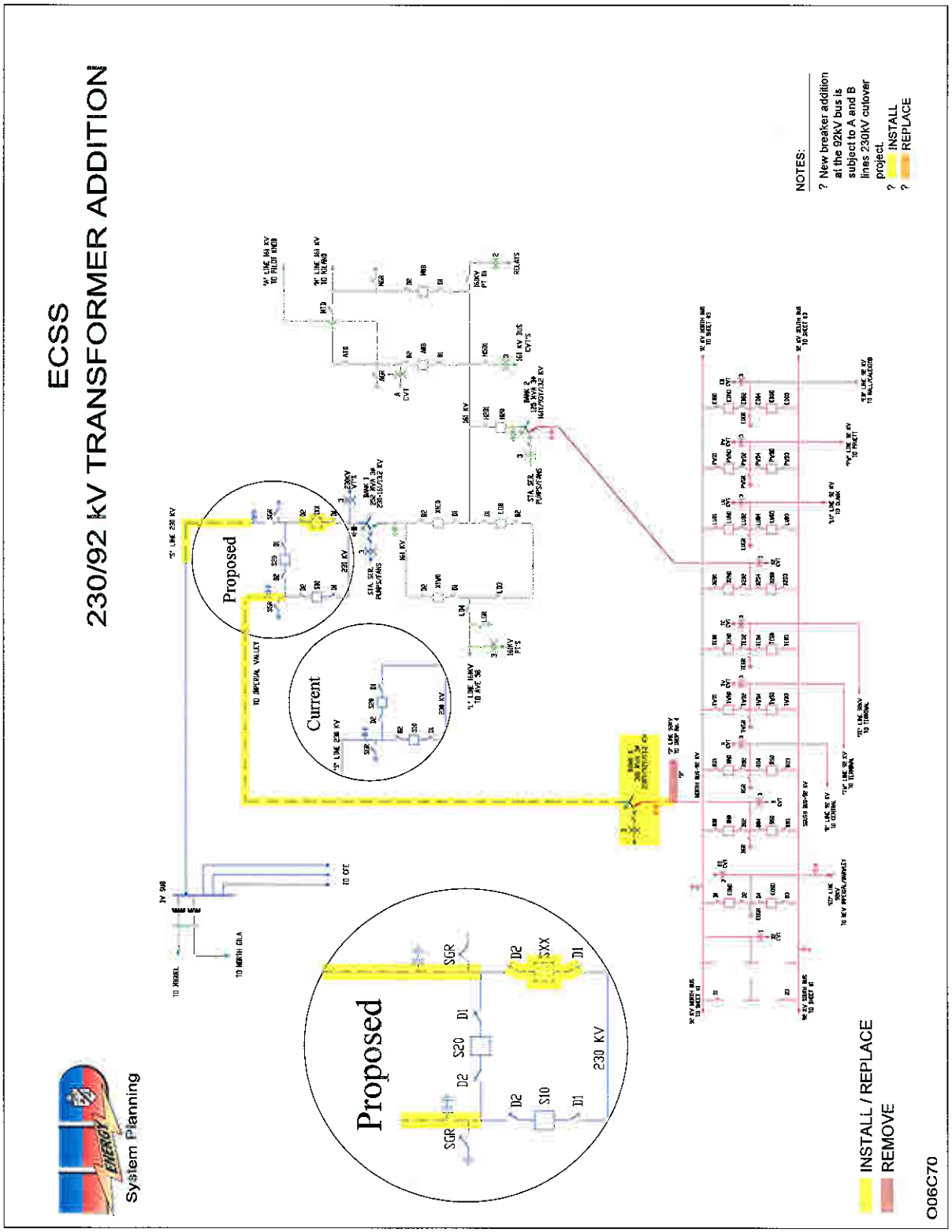
Manager, Energy Department — **Date** 10/17/06

Chief Financial Officer — **Date** 10/18/06

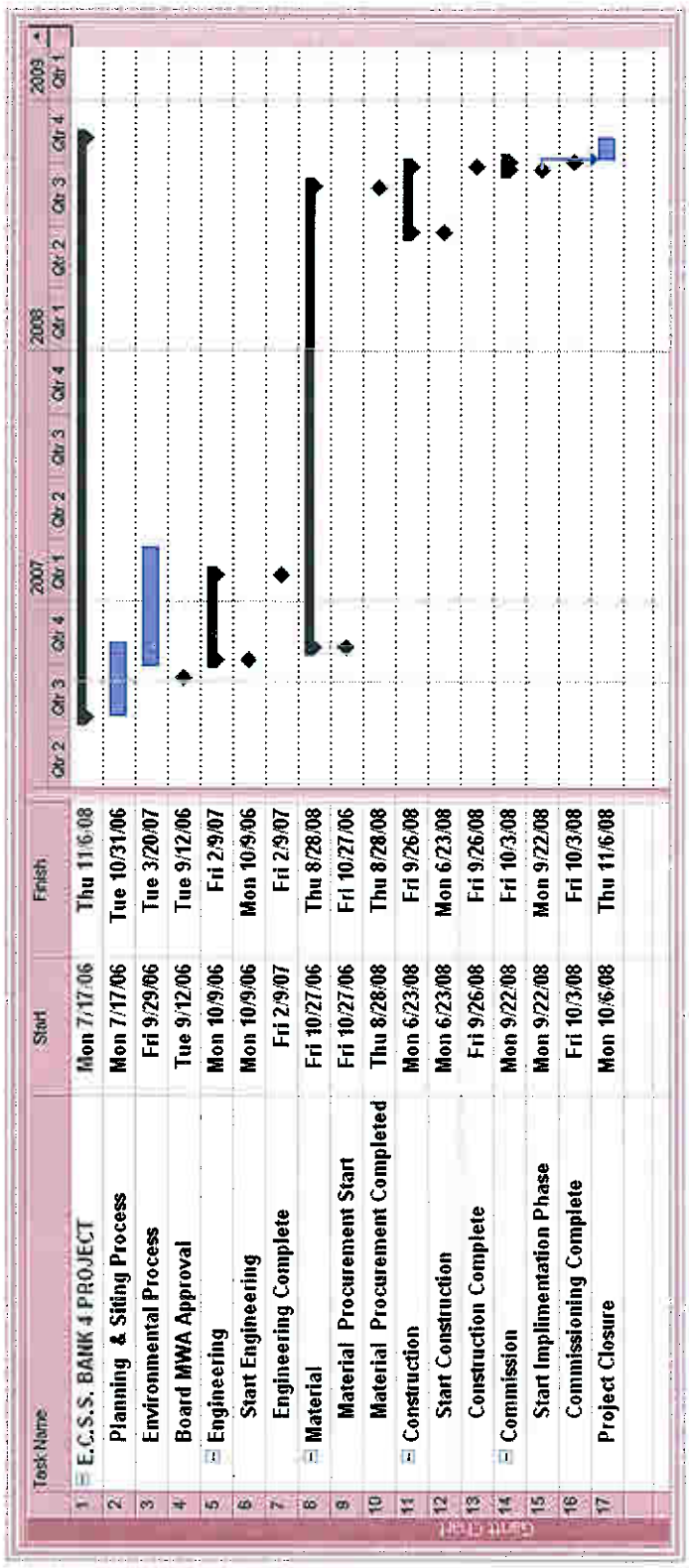
General Manager — **Date** 10.24.06

President, Board of Directors — **Date** 10-24-06

Appendix A –One-Line Diagram Proposed Conditions



Appendix B –Project Schedule



	Task Name	Start	Finish
1	E.C.S.S. BANK 4 PROJECT	Mon 7/17/06	Thu 11/6/08
2	Planning & Siting Process	Mon 7/17/06	Tue 10/31/06
3	Environmental Process	Fri 9/29/06	Tue 3/20/07
4	Board MWA Approval	Tue 9/12/06	Tue 9/12/06
5	Engineering	Mon 10/9/06	Fri 2/9/07
6	Start Engineering	Mon 10/9/06	Mon 10/9/06
7	Engineering Complete	Fri 2/9/07	Fri 2/9/07
8	Material	Fri 10/27/06	Thu 8/28/08
9	Material Procurement Start	Fri 10/27/06	Fri 10/27/06
10	Material Procurement Completed	Thu 8/28/08	Thu 8/28/08
11	Construction	Mon 6/23/08	Fri 9/26/08
12	Start Construction	Mon 6/23/08	Mon 6/23/08
13	Construction Complete	Fri 9/26/08	Fri 9/26/08
14	Commission	Mon 9/22/08	Fri 10/3/08
15	Start Implimentation Phase	Mon 9/22/08	Mon 9/22/08
16	Commissioning Complete	Fri 10/3/08	Fri 10/3/08
17	Project Closure	Mon 10/6/08	Thu 11/6/08

IMPERIAL IRRIGATION DISTRICT
Electric System

Summary of Proposed Five Year Capital Plan ($000)
Electric Transmission

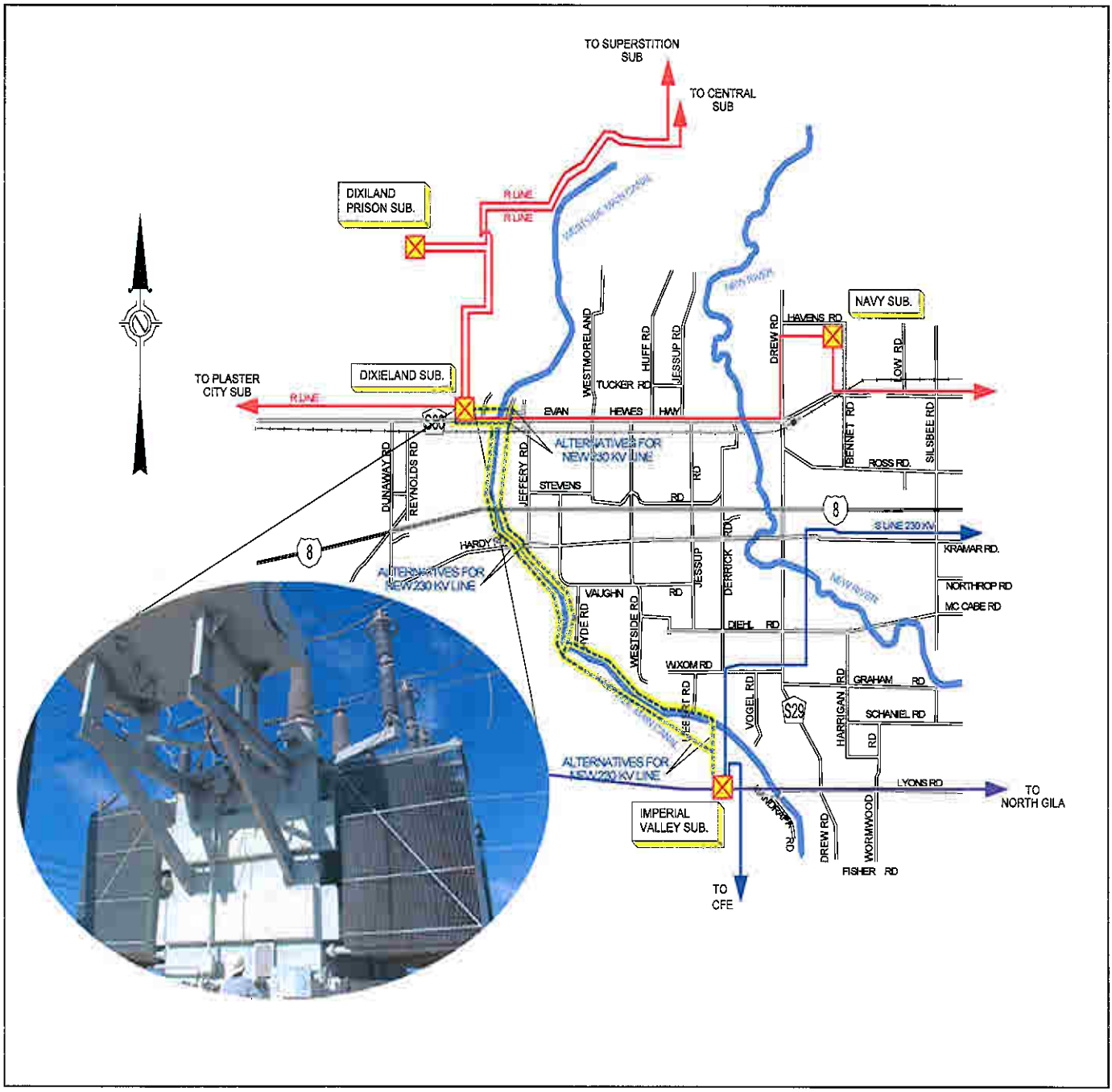
Line No.	Project	Fiscal Year Ending December 31 2006 [1]	2007	2008	2009	2010	2011	2012	Total
	(a)	(b)	(c)	(d)	(e)	(f)	(e)	(f)	(g)
	Estimated Capital Expenditures								
	New Substations								
1	New Shea Homes	$ 1,381	$ 80	$ 5,939	$	$	$	$	$ 7,400
2	St. Augustine	200		1,095	4,924				6,219
3	New Gateway	700							700
4	Suncal (Shadow Hills Bank 2)	400	50	2,450					2,900
5	Lavigne	2,000	6,645						8,645
6	New WTCU	200		80	5,479				5,759
7	Indian Hills (230/92-kV Switching Station)	300	200	165	8,205				8,870
8	La Paloma	200							200
9	Victoria Ranch	2,000	80	5,479					7,559
10	Shields	1,100							1,100
11	Los Lagos (New Pruett)	200	1,095	4,504					5,799
12	Kohl Ranch	200	8,911						9,111
13	Kohl Ranch #2				80	5,939			6,019
14	Citrus		6,319						6,319
15	New Heber		80	5,479					5,559
16	Taylor		80	5,479					5,559
17	Sub. Site Acquisitions		300	300	300	300			1,200
18	Polo Square			80	5,479				5,559
19	Paradise Valley			100	15,647				15,747
20	Buchanan			80	5,479				5,559
21	Lucky Ranch			70	4,189				4,259
22	Dairy			70	4,369				4,439
23	Sub Total New Substations	8,881	23,841	31,370	54,151	6,239			124,482
	Existing Substations/Transmission Lines Upgrades								
24	Salton Sea Unit 6	1,000							1,000
25	Clark	1,000							1,000
26	Euclid	50			1,095	4,464			5,609
25	Jackson	2,000	9,545						11,545
27	Avenue 58-CV & ECSS-Niland	300							300
28	Thermal (Relocate - New)	100			80	5,939			6,119
29	Jefferson (CS Line cutover)	520	1,389						1,909
30	Dixieland (300kV xfmr & 8.5 miles of 230-k	100	600	400	13,859				14,959
31	Van Buren	970							970
32	Coachella Valley	300							300
33	Yucca (AX line to 230-kV & 98 MVA xfmr)	100		100	6,140				6,340
34	Avenue 42	2,000							2,000
35	Mirage-Ramon	50							50
36	Highline	500	3,874						4,374
	Highline 230-kV addition		50	6,610					6,660

IMPERIAL IRRIGATION DISTRICT
Electric System

Summary of Proposed Five Year Capital Plan ($000)
Electric Transmission

Line No.	Project	Fiscal Year Ending December 31							
		2006 [1]	2007	2008	2009	2010	2011	2012	Total
	(a)	(b)	(c)	(d)	(e)	(f)	(e)	(f)	(g)
37	Heber-Imperial	500	60	1,607					2,167
38	Mecca-Oasis (to "R" line double circuit)	200	500	3,400					4,100
	Mecca 230-kV line		100	1,000	6,640				7,740
	Avenue 58 (xfmr addition)			100	3,500				3,600
	Coachella Valley Sub Addition				1,095	4,364			5,459
39	Sub Total Existing Substations/Transmission	9,690	16,118	13,217	32,409	14,767			86,201
	Substation Capacitor Banks/Breaker Upgrade								
40	Pilot Knob Breaker	100	308						408
41	Capacitor Banks 92-kV Network, Ave 42	804							804
42	Capacitor Banks 92-kV Network, Ave 58	804							804
43	El Centro Switching Station Breaker	389							389
44	Ave 48 Feeder Breaker replacement		500						500
45	Ave. 52 Bank 2 Addition		50	2,450					2,500
46	Carreon Bank 2 Addition		50	2,450					2,500
47	Subst. Feeder Getaways			10,575	14,550	7,400			32,525
48	East Mesa I - H10 circuit breaker		180						180
49	ECSS 230/92-kv Transformer Addition		1,400	3,186					4,586
50	Francis Way Bank 2 Addition		50	2,450					2,500
51	Mecca Bank 2 Addition		2,320						2,320
52	Monroe Bank 2 Addition		50	2,450					2,500
53	Van Buren Feeder Breaker Replacement		500						500
54	Coachella Switching Station New 92-kV bay			300					300
55	Sky Valley Bank 2 Addition			180	2,320				2,500
56	Terminal, Cap Bank, El Centro	867							867
57	El Centro Switching Station-New 230 kv Bus	300							300
58	El Centro Switching Station-161 kv Modifica	200							200
59	Sub Total Substation Capacitor Banks/Break	3,463	5,408	24,041	16,870	7,400			57,182
	Transmission Line Extensions/Upgrades								
60	Transmission Line Expansion (Greenpath)		2,300	1,000					3,300
61	IID IV Sub Phase Shifter			1,820					1,820
62	San Felipe Sw/Station (IID's portion)				1,700	6,800			8,500
63	IV-San Felipe 500-kV (IID's portion)				2,140	8,560			10,700
64	A and B Line Conversion to 230-kV		100	9,800	11,000				20,900
65	KN/KS Line (Midway to CV)	500	1,000	7,000					8,500
66	KN/KS Cathodic Protection (Highline-Midw		600						600
67	Coachella Valley KS Line Swap		253	22					275
68	"L" Line 230-kV Cutover (ECSS-Mecca 230	50			858	43,842			44,750
69	"CE" Line	50							50
70	Sub Total Transmission Line Extensions/Up	600	4,253	19,643	15,698	59,202			99,395

IMPERIAL IRRIGATION DISTRICT
ENERGY DEPARTMENT
SYSTEM PLANNING



IV Substation–Dixieland 230 KV Interconnection Project
Major Work Authorization
P-6574
October 24, 2006

TABLE OF CONTENTS

LIST OF FIGURES

INTRODUCTION

The information contained in this document outlines the design and construction of a new 230kV line from IV Substation (IV Sub)[1] to Dixieland Substation, and its associated terminal equipment at each Substation. The project also includes the installation of a 300MVA 230/92 kV transformer at Dixieland Substation. In addition, this document contains budgetary cost estimates, a preliminary project schedule, information on the project team members and project authorization sign-off sheet.

EXECUTIVE SUMMARY

The IV-Dixieland Project consists of building a 230kV line from IV Substation to Dixieland Substation. The cost of the 230KV Line is estimated at $ 14,959,000.00.

Funding for this project has been allocated in the 2006, 2007 and 2008 Capital Budget and reviewed by the Energy Budget Administration. The project team may revise the total funding amount upon design completion and construction unit final review.

The estimated project in service date is October 24, 2008.

PROJECT DESCRIPTION

The IV Sub–Dixieland 230kV Interconnection Project (Project Number P-6574) consists in building a new single circuit 230kV line between Imperial Valley Substation and Dixieland Substation. The approximate length of the new 230 kV line will be 8.5 miles.

The project also includes the following:

Dixieland Substation.

- Modify the existing 92kV bus configuration, from "Single bus, single breaker" to "Breaker and One Half" scheme; the substation will have 4 bays to accommodate up to 8 circuits[2].
- Build a 230kV ring bus to accommodate a new 230/92kV 300MVA transformer bank and the new line to Imperial Valley Substation, the bus will be prepared to accommodate a second 230kV line.
- Install a 12.5MVA 92/13.2kV transformer[3].
- Install a new control house and relays/control schemes for all equipment installed at the substation.

[1] *IV Sub is co-owned by San Diego Gas & Electric and Imperial Irrigation District*
[2] *Three circuits will be spares*
[3] The 12.47kV distribution bus will be maintained

- Remove the 92/34.5kV transformer, 34.5kV bus and 34.5/12.47kV transformer.

The pre-project and post-project configurations of Dixieland substation are depicted in the one-line diagrams, which have been included in appendixes A and B.

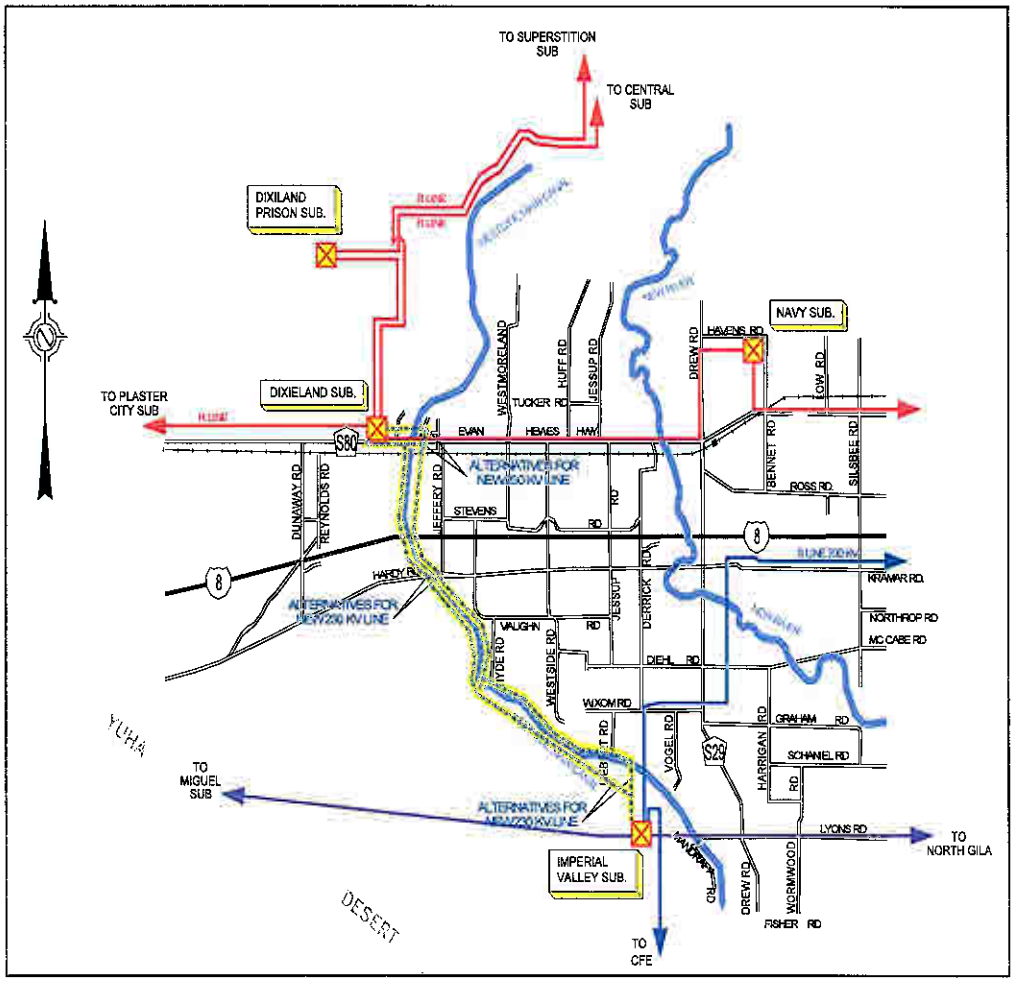
Imperial Valley Substation[4]

- Install a 230kV breaker and associated equipment to create a new line bay position to accommodate the new line to Dixieland

The post-project configuration of Imperial Valley substation is depicted in the one line diagram, which has been included in appendix C.

The following figure depicts the proposed geographical location of the 230kV line.

Figure 1 – 230kV line



[4] San Diego Gas and Electric will perform all the work at Imperial Valley Substation and will be funded by IID

PROJECT JUSTIFICATION

This transmission project will backup the potential outage of the existing "S" 230 kV Line[5]. The "S" Line represents the only permanent interconnection between IID and SDG&E. The second interconnection line will increase the IID import/export capability to meet the future load requirements. In addition, IID will increase the system reliability and improve the voltage profile at the Imperial Valley transmission network. The new breaker-and-one-half configuration at Dixieland Substation will provide higher system reliability, better operating flexibility and reinforce the transmission network.

The new 230 kV interconnection project will allow the IID to continue importing and exporting up to its interconnection capability when one of the two 230 kV Lines is taken out of service (due to line maintenance or equipment failure) for a long period-of-time with minimum impact to the IID System reliability.

IID notified SDG&E the need for utilizing the vacant 230 kV bay next to S Line breakers at IV Substation on time, and SDG&E confirmed the bay availability for our second interconnection line.

PROJECT SCOPE:

1. Obtain the necessary right-of-way required to construct the new 230kV transmission line from IV Sub to Dixieland Substation. Temporary construction right-of-way may be required.

2. Obtain the necessary permits and comply with the environmental requirements.

3. Perform the engineering design as described in the project description of this document. Refer to Appendixes A, B and C.

4. Order the necessary equipment and materials for this project. *(Staged materials and equipment ordered for other non-priority projects may be used in this project).*

5. Perform the construction of the project.

6. Complete the project by the in service date of October 24, 2008.

[5] The existing 230kV "S" line is constructed with single wood pole.

REAL ESTATE REQUIREMENTS:

This authorization action is conditioned upon completion of all requirements specified in CEQA. This includes, but is not limited to an environmental assessment, an environmental impact review, or negative impact declaration. No property acquisition, right-of-way acquisition, or award of contracts for construction will be finalized until all requirements are complete.

ENVIRONMENTAL COMPLIANCE:

This authorization action is conditioned on completion, prior to commencement of work, of all requirements specified in the California Environmental Quality Act (CEQA), the Endangered Species Act (ESA) or other applicable environmental or wildlife resource laws. IID's Environmental Compliance Section (ECS) will review any of the proponent's environmental documentation to determine compliance with existing environmental regulations.

PROJECT FINANCING/ACCOUNTING

Project's Funding Source: pending

Funding for this project has been allocated in the 2006, 2007 and 2008 Capital Budget and reviewed by the Energy Budget Administration.

The project cost has been estimated at $14,959,000.00. Included in the total cost is $1,360,000.00 for contingencies[6].

The project team will revise the total funding amount upon design completion and construction unit final review.

Estimated Summary of Probable Costs is as:

IID Engineering Services (Design)			
Substation	$	110,000.00	+
Relays	$	16,000.00	
Transmission	$	110,000.00	
Distribution	$	-	
Communication & SCADA	$	5,000.00	
	$	**241,000.00**	
Equipment and Material			
Substation	$	4,013,000.00	+
Relays	$	160,000.00	
Transmission	$	3,763,000.00	
Distribution	$	-	
Communication & SCADA	$	20,000.00	
	$	**7,956,000.00**	
Substation Exterior Work			
Wall Fence (South Side)	$	-	+
Grading	$	-	
Road Base	$	-	
Concrete (Foundations)	$	-	
Landscaping	$	-	
	$	**-**	

[6] *Project contingency is 10%, rounded to thousands*

Construction Labor				
Substation		$	982,000.00	+
Relays		$	28,000.00	
Transmission		$	4,260,000.00	
Distribution		$	-	
Communication & SCADA		$	8,000.00	
		$	**5,278,000.00**	
Operational Resources				
Real Estate		$	50,000.00	+
Environmental		$	50,000.00	
		$	**100,000.00**	
Administrative Cost				
Transmission Plannig		$	4,000.00	+
Distribution Planning		$	-	
Project Management		$	20,000.00	
		$	**24,000.00**	
Project Cost Estimate	Subtotal	$	13,599,000.00	+
	Contingency 10 %	$	1,360,000.00	
	Grand Total	**$**	**14,959,000.00**	

COST-BENEFIT ANALYSIS AND RISK ASSESSMENT

OVERVIEW

The project to construct approximately 8.5 miles of a single 230kV transmission line from IV Substation to Dixieland Substation in conjunction with the installation of one (1) 230/92 kV 300 MVA Bank at Dixieland Substation will upgrade the transmission transfer capability between Imperial Irrigation District (IID) and San Diego Gas & Electric (SDG&E).

The project entails the engineering, equipment/materials procurement and construction costs to provide a second transmission path between SDG&E and IID to maintain the transmission transfer capability between SDG&E and IID in the event of one element out of service (n-1 condition). The in-service date for this project is anticipated to be October 24, 2008.

ASSUMPTIONS

Assumptions used for the cost-benefit analysis were based on information of previous and forecasted summer peaks scenarios as well as data received from the power system operation section. Part of the intent of the cost-benefit analysis and risk assessment is to assess the reasonableness of the data and the methodology used in constructing the Economic Benefit Analysis model.

- Failure of the existing "S" line would result in the need to replace cheaper, purchased energy with higher cost, internal energy from our gas turbines for a period of seven days, all day. The gas turbines hourly cost was calculated by Planning Section staff by summing the fuel, auxiliary energy and variable O&M costs for each unit. The incremental cost between external and internal energy costs was used. The incremental cost was further reduced to 30% of the total to offer a more conservative figure.
- The cost of cold starting the gas turbines for seven days was also reduced to a more conservative 30% figure.
- The line is estimated to have a useful life of 34 years.
- An interest rate of 5% was used to calculate the project's funding cost. No adjustments were made to predict the variability of this rate over the useful life of this project.
- A discount or hurdle rate of 5.5% was used in this analysis according to current CFO guidelines.

PROJECT COSTS AND BENEFITS

The estimated cost for this project is $14,959,000. Funding for this project will be allocated in the 2006, 2007 and 2008 capital budget, and reviewed by the Energy budget Administration. A 10% reserve is included in the estimate to handle contingencies and other unanticipated costs.

The primary benefit of this project is the avoided incremental cost of internal generation versus external energy and the gas turbine startup costs required to replace the energy that would carry through the path representing the combination of the transmission line and the transformer bank. The increase in transmission transfer capability between both companies is anticipated to be approximately of 200 MW. Other than project costs and the cost to fund the project, no other costs were identified.

PROJECT FINANCIAL METRICS

A cost-benefit analysis was completed on this project using a spreadsheet modeled for the evaluation of reliability projects.

Based on the assumptions previously defined, the following table highlights the financial metrics resulting from the cost-benefit analysis:

FINANCIAL METRIC	RESULT
Net Present Value (NPV)	$ 6,960,225
Internal Rate of Return (IRR)	9 %
Estimated Payback Period	12 years
Return on Investment (ROI) Simple	121 %
Discounted	31 %

The full cost-benefit spreadsheet has not been included in the MWA but is available if the reader desires additional information related to these results.

RISK ASSESSMENT

The interconnected transmission systems are the principal media for achieving reliable electric supply. They tie together the major electric system facilities, generation resources, and customer demand centers. These systems must be planned, designed, and constructed to operate reliably within thermal, voltage, and stability limits while achieving their major purposes.

The existing 230 kV "S" line was originally place in operation in 1984, it has been used as a regular path for importing energy from "CAISO" and Texas, New Mexico, Nevada and Eastern areas through the South West Power Link (SWPL).

The line is single wood pole configuration; several years ago, the line fell down causing the system to be operated under extreme stress condition. Under the current operating conditions, the weakness of the line might expose it to a potential failure on its structure. This latent scenario will cause the start up of gas turbines to supply the deficit of energy that normally is flowing trough this line.

The installation of the new 230 kV line in combination with the transformer bank at Dixieland will give flexibility to the system for scheduling outages and maintenance jobs. In addition, the system will be able to withstand contingencies and keep voltages profiles at permissible levels after a disturbance occurs.

Being IID the sixth largest utility in California, it operates over 1,000 megawatts of energy derived from a diverse resource portfolio that includes its own generation, and long and short-term power purchases.

As previously stated, this project is anticipated to increase the IID's import/export capacity between SDG&E's and IID's IV sub and IID as well as increasing system reliability.

The risk in not doing this project is the inability to serve anticipated load growth in a good reliable form or to serve existing load in case of failure of the existing 230kV "S" line. Continued development, normal load growth and system reliability are the primary drivers for this project. The continued reliability of service in the area depends in portion on maintaining the interconnection of the SDG&E/IID intertie in the event of one single element of out service ("S" line).

PROJECT TEAM

Chief Financial Officer	**Robert J. Vodzack**
Department Manager	**John Federowicz**
Assist. Manager Project Owner	**J. C. Sandoval**
System Planning Project Owner	**David L. Barajas**

Project Leads:

Project Planning Engineer	**Jorge L. Barrientos**
Project Manager	**Eddie Lutz**
Project Engineer (T & S)	**Oscar Kebriti**
Project Engineer (Telecom)	**Javier Jimenez**
Project Management Coordinator	**Walter Gonzalez**
Project Substation Construction/Inspection	**Al Minor**
Project Budget Coordinator	**Corina Jaramillo**
Project Siting	**Eddie Villanueva**
Environmental Compliance	**Michael Remington**
Real Estate	**Jim Kelley**

PROJECT AUTHORIZATION
SIGN-0FF SHEET

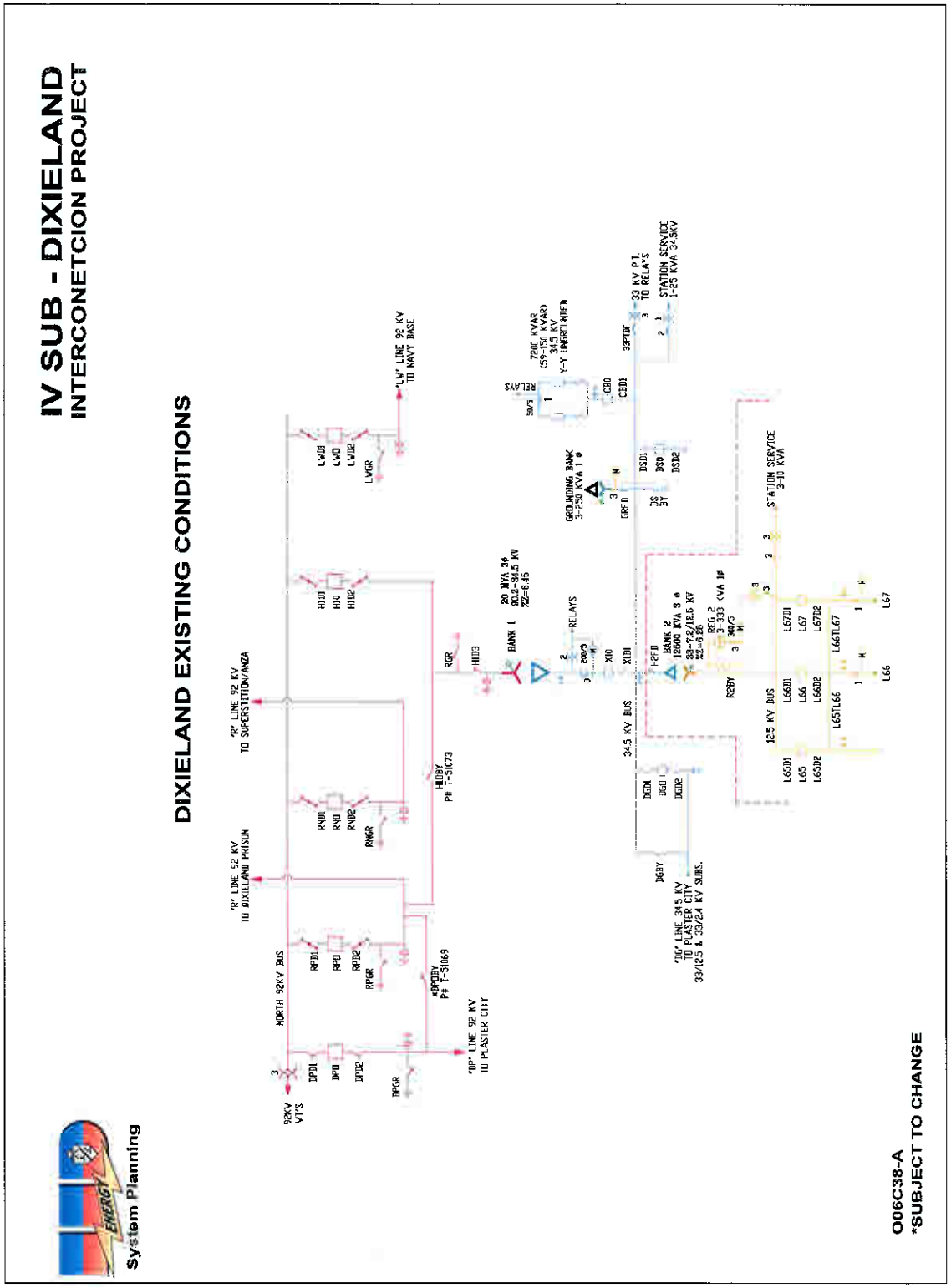
Manager, Energy Department — **Date** 10/17/06

Chief Financial Officer — **Date** 10/15/06

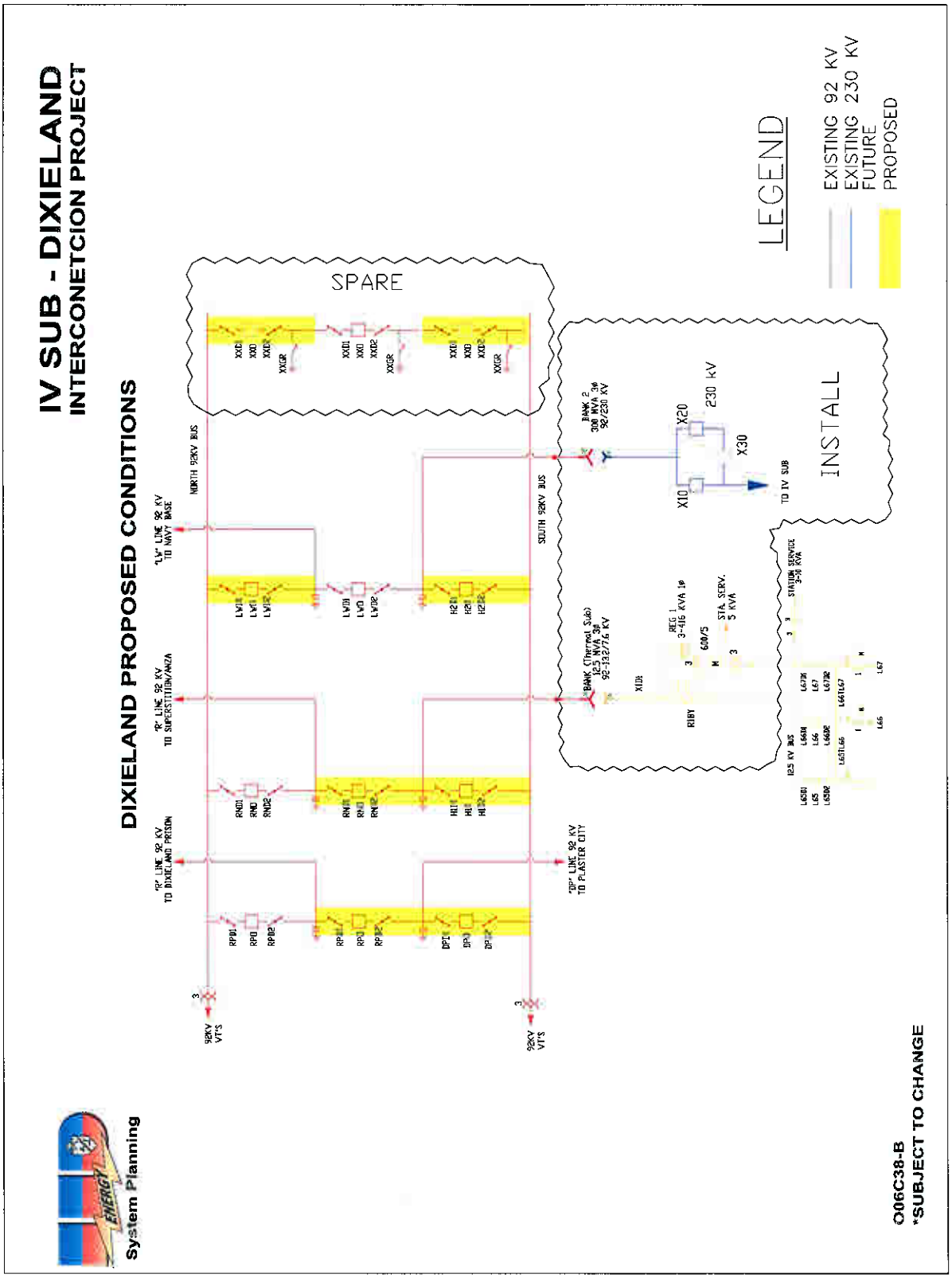
General Manager — **Date** 10.24.06

President, Board of Directors — **Date** 10-24-06

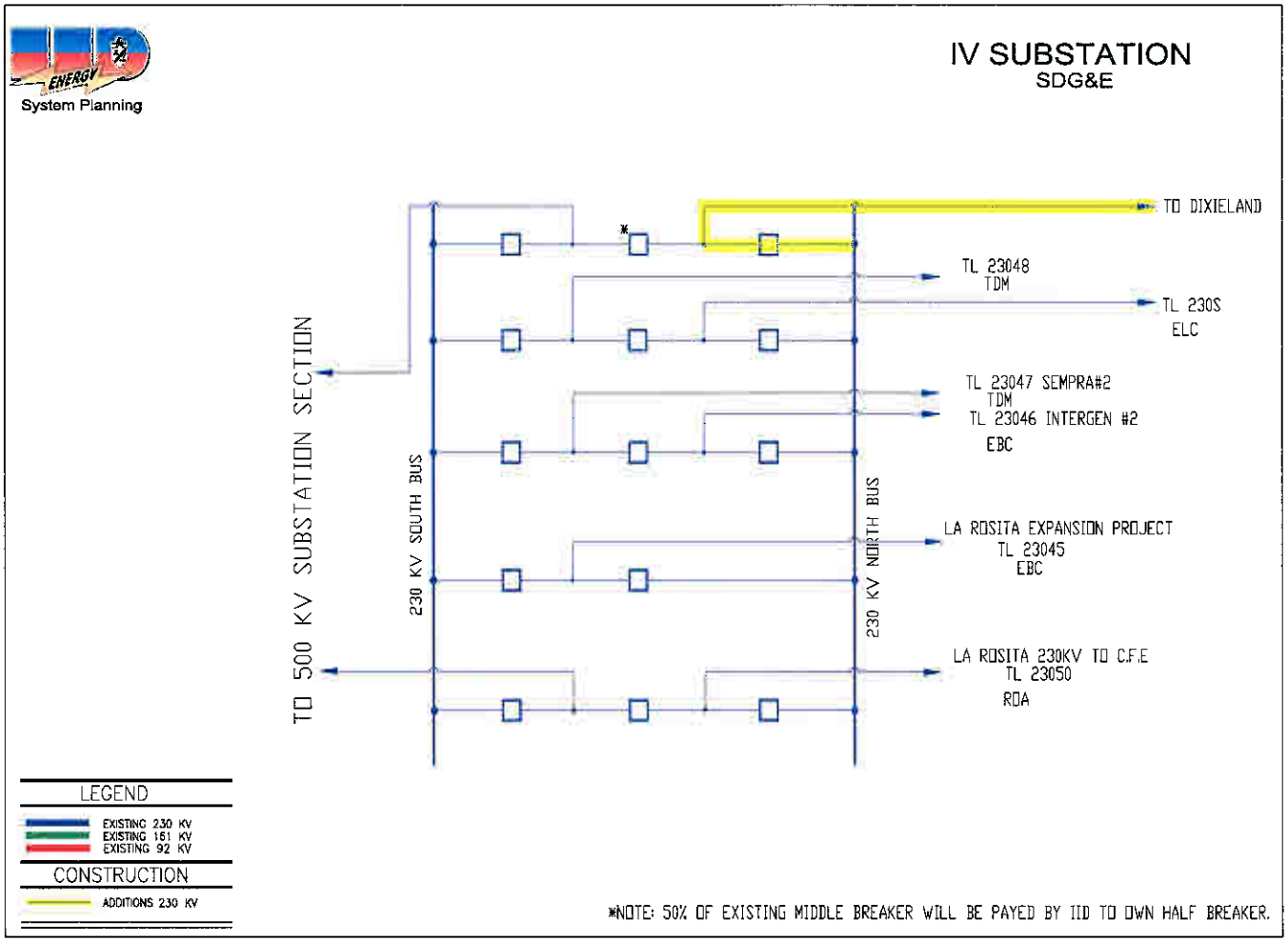
Appendix A –Dixieland Substation One-line Diagram Existing Conditions



Appendix B –Dixieland Substation Conceptual Diagram Proposed Conditions

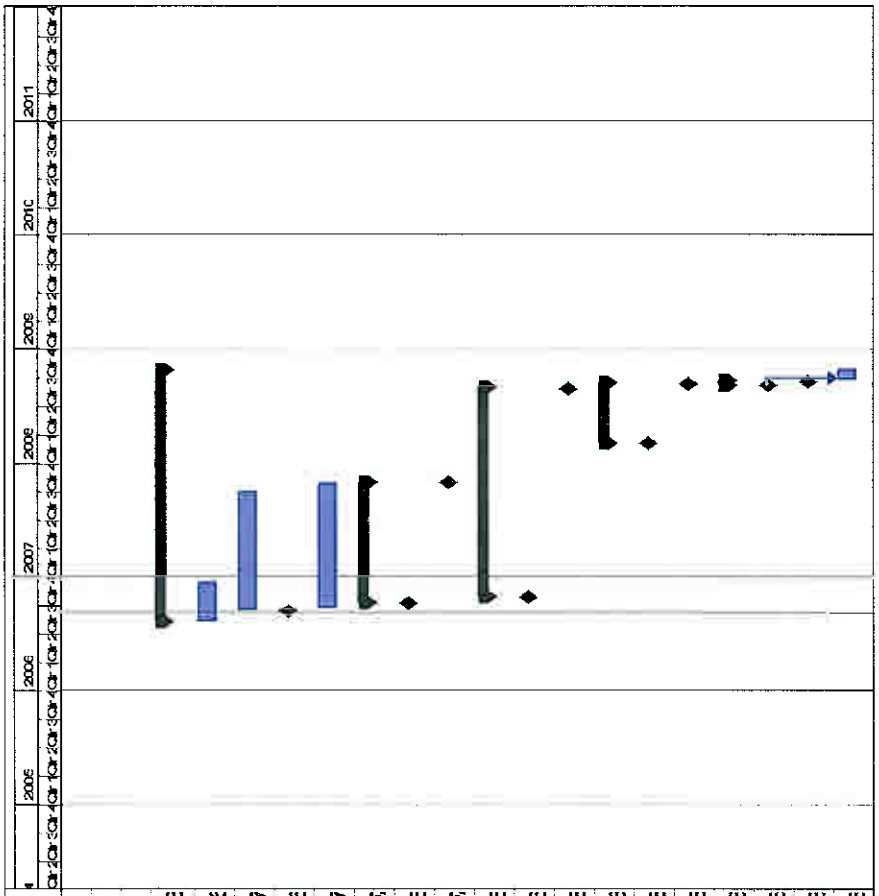


Appendix C- IV Substation Proposed Conditions.



Appendix D –Project Schedule

ID	Task Name	Start	Finish
1			
2			
3			
4	IV-DIXIELAND 230KV PROJECT	Mon 8/7/06	Fri 10/24/08
5	Planning & Siting Process	Mon 8/7/06	Tue 12/12/06
6	Environmental Process	Mon 9/11/06	Fri 9/28/07
7	Board MWA Approval	Tue 9/12/06	Tue 9/12/06
8	Right of Way	Mon 9/18/06	Fri 10/26/07
9	Engineering	Mon 10/9/06	Wed 10/31/07
10	Start Engineering	Mon 10/9/06	Mon 10/9/06
11	Engineering Complete	Wed 10/31/07	Wed 10/31/07
12	Material	Fri 10/27/06	Thu 8/28/08
13	Material Procurement Start	Fri 10/27/06	Fri 10/27/06
14	Material Procurement Complete	Thu 8/28/08	Thu 8/28/08
15	Construction	Mon 3/3/08	Fri 9/12/08
16	Start Construction	Mon 3/3/08	Mon 3/3/08
17	Construction Complete	Fri 9/12/08	Fri 9/12/08
18	Commission	Mon 9/8/08	Fri 9/19/08
19	Start Implimentation Phase	Mon 9/8/08	Mon 9/8/08
20	Commissioning Complete	Fri 9/19/08	Fri 9/19/08
21	Project Closure	Mon 9/22/08	Fri 10/24/08



IMPERIAL IRRIGATION DISTRICT
Electric System

Summary of Proposed Five Year Capital Plan ($000)
Electric Transmission

Line No.	Project	Fiscal Year Ending December 31 2006 [1]	2007	2008	2009	2010	2011	2012	Total
	(a)	(b)	(c)	(d)	(e)	(f)	(e)	(f)	(g)
	Estimated Capital Expenditures								
	New Substations								
1	New Shea Homes	$ 1,381	$ 80	$ 5,939	$	$	$	$	$ 7,400
2	St. Augustine	200		1,095	4,924				6,219
3	New Gateway	700							700
4	Suncal (Shadow Hills Bank 2)	400	50	2,450					2,900
5	Lavigne	2,000	6,645						8,645
6	New WTCU	200		80	5,479				5,759
7	Indian Hills (230/92-kV Switching Station)	300	200	165	8,205				8,870
8	La Paloma	200							200
9	Victoria Ranch	2,000	80	5,479					7,559
10	Shields	1,100							1,100
11	Los Lagos (New Pruett)	200	1,095	4,504					5,799
12	Kohl Ranch	200	8,911						9,111
13	Kohl Ranch #2				80	5,939			6,019
14	Citrus		6,319						6,319
15	New Heber		80	5,479					5,559
16	Taylor		80	5,479					5,559
17	Sub. Site Acquisitions		300	300	300	300			1,200
18	Polo Square			80	5,479				5,559
19	Paradise Valley			100	15,647				15,747
20	Buchanan			80	5,479				5,559
21	Lucky Ranch			70	4,189				4,259
22	Dairy			70	4,369				4,439
23	Sub Total New Substations	8,881	23,841	31,370	54,151	6,239			124,482
	Existing Substations/Transmission Lines Upgrades								
24	Salton Sea Unit 6	1,000							1,000
25	Clark	1,000							1,000
26	Euclid	50			1,095	4,464			5,609
25	Jackson	2,000	9,545						11,545
27	Avenue 58-CV & ECSS-Niland	300							300
28	Thermal (Relocate - New)	100			80	5,939			6,119
29	Jefferson (CS Line cutover)	520	1,389						1,909
30	Dixieland (300kV xfmr & 8.5 miles of 230-k	100	600	400	13,859				14,959
31	Van Buren	970							970
32	Coachella Valley	300							300
33	Yucca (AX line to 230-kV & 98 MVA xfmr)	100		100	6,140				6,340
34	Avenue 42	2,000							2,000
35	Mirage-Ramon	50							50
36	Highline	500	3,874						4,374
	Highline 230-kV addition		50	6,610					6,660

IMPERIAL IRRIGATION DISTRICT
Electric System

Summary of Proposed Five Year Capital Plan ($000)
Electric Transmission

Line No.	Project	Fiscal Year Ending December 31							
		2006 [1]	2007	2008	2009	2010	2011	2012	Total
	(a)	(b)	(c)	(d)	(e)	(f)	(e)	(f)	(g)
37	Heber-Imperial	500	60	1,607					2,167
38	Mecca-Oasis (to "R" line double circuit)	200	500	3,400					4,100
	Mecca 230-kV line		100	1,000	6,640				7,740
	Avenue 58 (xfmr addition)			100	3,500				3,600
	Coachella Valley Sub Addition				1,095	4,364			5,459
39	Sub Total Existing Substations/Transmission	9,690	16,118	13,217	32,409	14,767			86,201
	Substation Capacitor Banks/Breaker Upgrade								
40	Pilot Knob Breaker	100	308						408
41	Capacitor Banks 92-kV Network, Ave 42	804							804
42	Capacitor Banks 92-kV Network, Ave 58	804							804
43	El Centro Switching Station Breaker	389							389
44	Ave 48 Feeder Breaker replacement		500						500
45	Ave. 52 Bank 2 Addition		50	2,450					2,500
46	Carreon Bank 2 Addition		50	2,450					2,500
47	Subst. Feeder Getaways			10,575	14,550	7,400			32,525
48	East Mesa I - H10 circuit breaker		180						180
49	ECSS 230/92-kv Transformer Addition		1,400	3,186					4,586
50	Francis Way Bank 2 Addition		50	2,450					2,500
51	Mecca Bank 2 Addition		2,320						2,320
52	Monroe Bank 2 Addition		50	2,450					2,500
53	Van Buren Feeder Breaker Replacement		500						500
54	Coachella Switching Station New 92-kV bay			300					300
55	Sky Valley Bank 2 Addition			180	2,320				2,500
56	Terminal, Cap Bank, El Centro	867							867
57	El Centro Switching Station-New 230 kv Bus	300							300
58	El Centro Switching Station-161 kv Modifica	200							200
59	Sub Total Substation Capacitor Banks/Break	3,463	5,408	24,041	16,870	7,400			57,182
	Transmission Line Extensions/Upgrades								
60	Transmission Line Expansion (Greenpath)		2,300	1,000					3,300
61	IID IV Sub Phase Shifter			1,820					1,820
62	San Felipe Sw/Station (IID's portion)				1,700	6,800			8,500
63	IV-San Felipe 500-kV (IID's portion)				2,140	8,560			10,700
64	A and B Line Conversion to 230-kV		100	9,800	11,000				20,900
65	KN/KS Line (Midway to CV)	500	1,000	7,000					8,500
66	KN/KS Cathodic Protection (Highline-Midw		600						600
67	Coachella Valley KS Line Swap		253	22					275
68	"L" Line 230-kV Cutover (ECSS-Mecca 230	50			858	43,842			44,750
69	"CE" Line	50							50
70	Sub Total Transmission Line Extensions/Upg	600	4,253	19,643	15,698	59,202			99,395

Barajas, David L

From: Barajas, David L
Sent: Friday, October 13, 2006 11:45 AM
To: Ainsworth, Sondra; Jaramillo, Corina
Cc: Najera, Raquel; Sandoval, Juan C
Subject: RE: 4 pending MWA requests

Sondra and Corina, below is the information required re to the pending MWA's
Please call me if you have any questions.

Thanks.

	2006	2007	2008	
Kohl Ranch				
Engineering	$ 58,000	$ 353,000	$ -	$ 411,000
Lon Lead Item Equipment	$ -	$ 1,160,000	$ -	$ 1,160,000
Real Estate & Environmental	$ -	$ 67,000	$ -	$ 67,000
Total	$ 58,000	$ 1,580,000	$ -	$ 1,638,000
ECSS Bank 4				
Engineering	$ 30,000	$ 47,000	$ -	$ 77,000
Lon Lead Item Equipment	$ 48,000	$ 1,760,000	$ 1,692,000	$ 3,500,000
Real Estate & Environmental	$ -	$ 7,000	$ -	$ 7,000
Total	$ 78,000	$ 1,814,000	$ 1,692,000	$ 3,584,000
IV-Dixieland Interconnection				
Engineering	$ 10,000	$ 231,000	$ -	$ 241,000
Lon Lead Item Equipment	$ 48,000	$ 1,760,000	$ 1,692,000	$ 3,500,000
Real Estate & Environmental	$ -	$ 100,000	$ -	$ 100,000
Total	$ 58,000	$ 2,091,000	$ 1,692,000	$ 3,841,000
Gran Total	$ 194,000	$ 5,485,000	$ 3,384,000	$ 9,063,000

David L. Barajas

General Superintendent,
System Planning and Engineering
Imperial Irrigation District
(760) 482- 3450 - Office
(760) 427- 3292 - Cellular

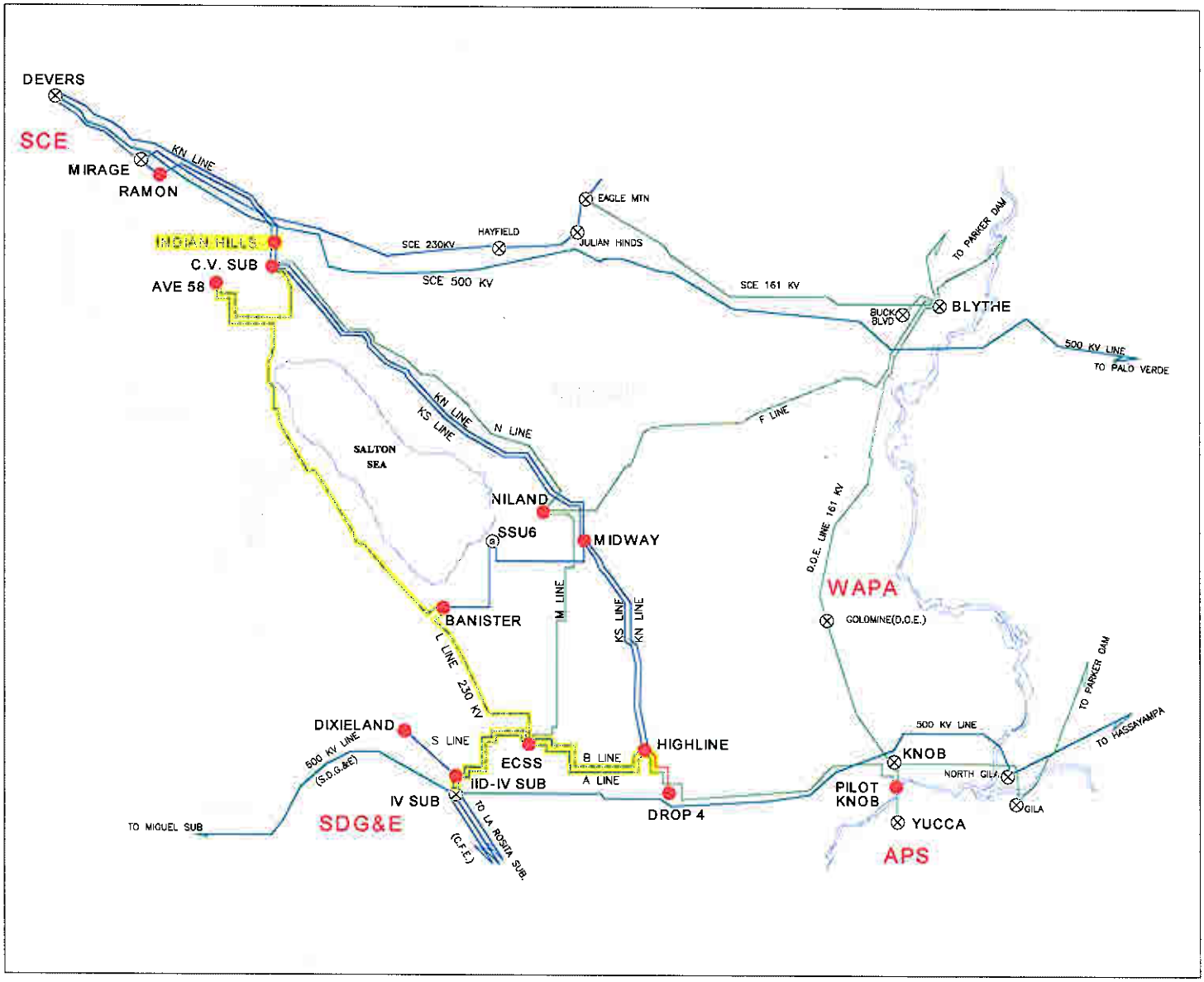
From: Ainsworth, Sondra
Sent: Wednesday, October 11, 2006 12:05 PM
To: Jaramillo, Corina; Barajas, David L
Cc: Najera, Raquel
Subject: RE: 4 pending MWA requests

David,

When do you expect to have the figures to Corina? We need to get the Board memo request to Gloria Rivera by Tuesday.

Thanks,
Sondra

IMPERIAL IRRIGATION DISTRICT
ENERGY DEPARTMENT
SYSTEM PLANNING/ENGINEERING



Transmission Expansion Plan
Major Work Authorization
P-6312
November 15, 2005

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LIST OF FIGURES

INTRODUCTION

The information contained in this document outlines IID's Transmission Expansion Plan development phase, as well as budgetary cost estimates, a preliminary project schedule, information on the project team members and a project authorization sign-off sheet.

EXECUTIVE SUMMARY

Over the last few years, IID has reviewed and developed detailed long-term transmission plan (ten years timeframe) to define the transmission improvements necessary to continue meeting the load service requirements in future years. The plan has primarily focused on the upgrade of certain sections of IID's 161kV transmission system to 230kV to integrate the existing 230kV collector system[1] and create a 230kV transmission loop that will cover most of IID service area.

These transmission upgrades and improvements "IID Transmission Expansion Plan" will serve as a backbone to increase IID's ability to meet the significant load growth[2] that we have experienced in the last five years and the forecasted load growth for at least the next 15 to 20 years. These upgrades will improve IID's system reliability and import capability into IID service area.

The purpose of this document is to procure authorization for the development phase that is covered in the project scope of this document.

The cost of the project is estimated at $ 3,300,000.00

Funding for this project has been allocated from Energy Revenues in the 2005 and 2006 Capital Budget and reviewed by the Energy Budget Administration.

The estimated project in service date is December 30, 2006.

[1] The collector system "KN/KS" is a 100 mile long double circuit line, steel and lattice tower configuration, running radial from IID's southern service area to IID's northern service area Interconnecting to Southern California Edison (SCE) System.

[2] Additional Switching Stations required to provide transformation from the 230kV to the 92kV system are not included as part of this Transmission Expansion Plan. The exact location and capacity of these Switching Stations will be defined depending on the geographical location of the load growth.

PROJECT DESCRIPTION

The project consists of project development activities such as permitting, environmental work, ROW assessment and preliminary engineering design required for the transmission upgrade and rebuilding of certain sections of the aging 161/92kV transmission system to create a 230kV loop across IID service area. The main components of this project are as follows:

1. Upgrade 18 miles of the "A" 161kV and "B" 92kV transmission lines between East Highline canal and El Centro Switching Station (ECSS). Build one mile of a 230kV double circuit line to interconnect the "A" and "B" lines to Highline Station. Build a 161/92kV double circuit line to interconnect the east side portion of the "A" and "B" lines to Highline Station.

   Highline Station, convert the 230kV ring bus configuration to breaker and one half to accommodate the "A" and "B" lines from ECSS 230kV, a second 230/92kV transformer and a new 230/92kV transformer. Install a 161/92kV transformer and create a 161kV bus to interconnect the "A" line portion from Pilot Knob, add three 92kV bays to the existing 92kV bus to interconnect the "B" line portion from Drop 4, the 161/92kV transformer and the 230/92kV transformer.

   ECSS, build a 230kV switchyard to interconnect the two 230kV circuits to Highline Station, the existing "S" line to IV Sub and the proposed 230/92kV transformer[3], the existing 230/161kV transformer will be installed at Bannister Station as part of the SSIP project.

2. Rebuild 18 miles of the "S" 230kV single circuit line[4] between ECSS and Imperial Valley Substation (IV Sub) to 230kV double circuit line of at least 1600 MW capacity. This phase of the project will include the potential re-route of a planned 230kV line between IV Sub and Dixieland Substation into a potential IID's switching station[5] adjacent to IV Sub. This phase of the project might include the construction of IID's switching station if this station is not constructed as a requirement of the Path 49 rating increase scheduled to be in service by the end of year 2007.

   ECSS, add one 230kV line bay to the proposed ECSS switchyard to interconnect the second circuit of the proposed "S" line to IV Sub.

[3] The proposed 230/92kV transformer is scheduled to be in service before summer 2007.
[4] The line is constructed in single wood pole configuration with a thermal capacity of 370 MVA.
[5] Studies are already in progress between IID and SDG&E to determine the need of this switching station required to install a phase shifter in series with the "S" 230kV line that is a potential requirement for the Path 49 rate increase project An MOU was signed by IID's board of directors on xx xx xx to participate in the studies.

3. Rebuild the "L" 161kV single circuit line[6] between ECSS and Bannister Station[7] to 230kV single circuit line.

   ECSS, add one 230kV line bay to the proposed ECSS switchyard to interconnect the proposed "L" 230kV line to Bannister Station.

   Bannister Station, add one 230kV line bay to the proposed 230/161kV Bannister Station to interconnect the proposed "L" 230kV line to ECSS switchyard.

4. Rebuild the "L" 161kV single circuit line from Bannister Station to Ave 58 Substation to 230kV[8].

   Ave 58 Substation, upgrade the 161kV Bus to 230kV. System Planning has identified the need to increase the transformation capacity in this substation by year 2007, the transformer will have 161/92kV and 230/92kV operation capability to be prepared for the planned cutover to 230kV.

   Rebuild the "L" 161kV single circuit line from Ave 58 Substation to Coachella Valley Substation to 230kV[8].

   Coachella Valley Substation, modify the existing 230kV ring bus configuration to breaker and one half scheme to accommodate the "L" 230kV line from Ave 58 Substation. System Planning has also identified the need to increase the transformation capacity at this substation. The final transformation configuration at this substation will be defined when the preliminary engineering and studies are complete as part of this development phase.

5. Indian Hills Substation, build a 230kV/92kV/12.47kV substation. The substation will be interconnected to the transmission system as follows: (i) "KN" line between Coachella Valley Substation and Devers, SCE Station as well as the "KS" line between Coachella Valley substation and Ramon Station will loop in a and out the 230kV bus. (ii) The "CI" line between Van Buren Substation and Ave 42 Substation will loop in and out the 92kV bus. (iii) The "CM" line between Coachella Switching Station and Sky Valley Substation will loop in and out the 92kV bus. (iv) A second circuit between Coachella Switching Station and Indian Hills 92kV bus will be constructed. (v) A new line to the proposed Paradise Valley development. The substation pre-engineering design that is part of this development phase will be prepared to accommodate a 500kV switchyard for the potential interconnection to a new line to Los Angeles Department of Water and Power (LADWP) and to the loop in and out of the proposed Devers-Palo Verde line number 2 (DPV2).

[6] The line is constructed in single wood pole configuration with a thermal capacity of 370 MVA.
[7] Bannister Substation is part of the plan of service to interconnect Salton Sea Unit 6 (SSU6) to the IID transmission system (SSIP).
[8] Portion of the two lines between Ave 58 Substation and Buchanan Rd will be constructed as is currently configured sharing the same steel pole (double circuit).

The following figures depicts the IID Transmission System under the following scenarios: (i) Existing Conditions (Figure 1), (ii) after the "Transmission Expansion Plan" project (Figure 2).

Figure 1

Existing Conditions

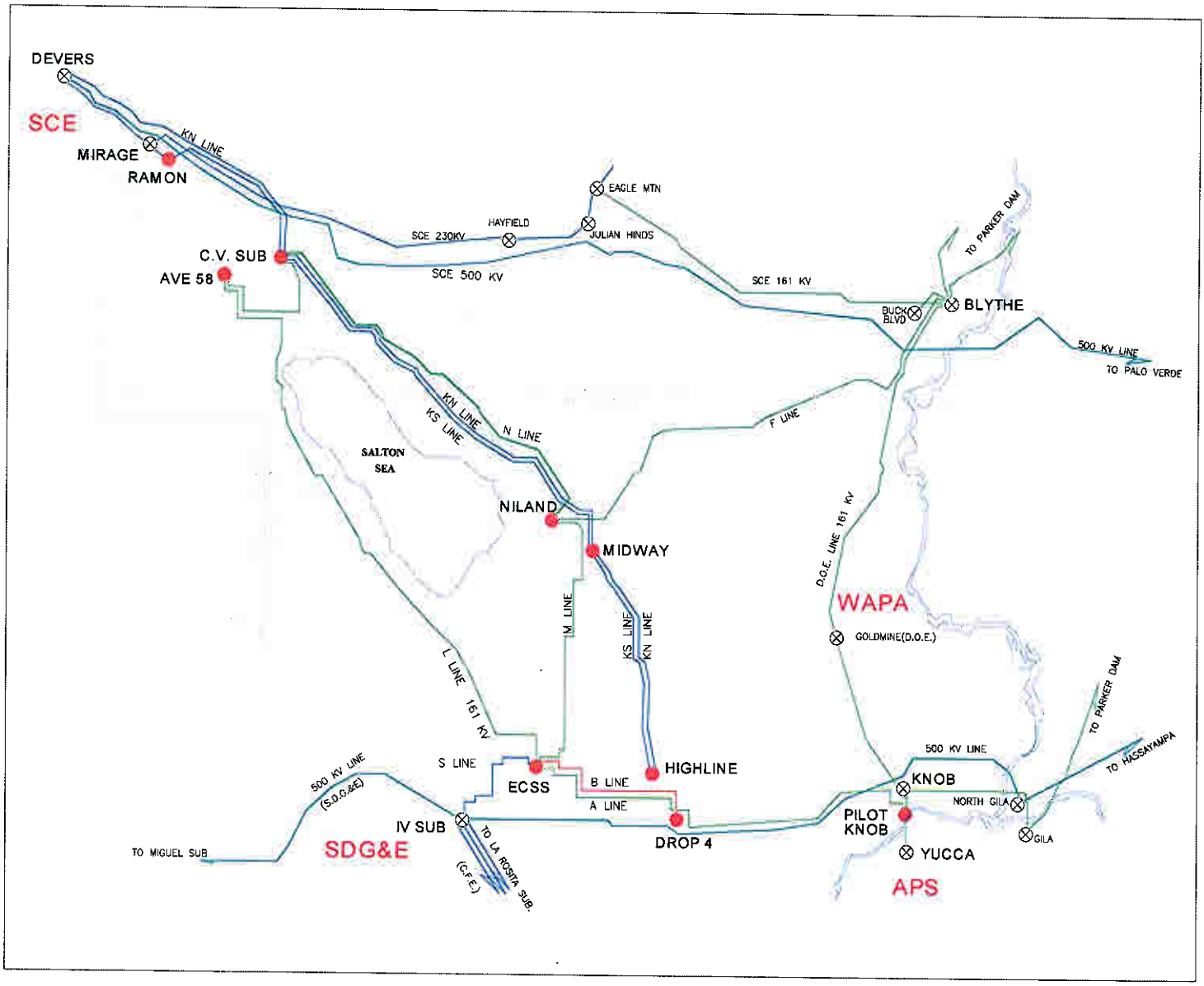
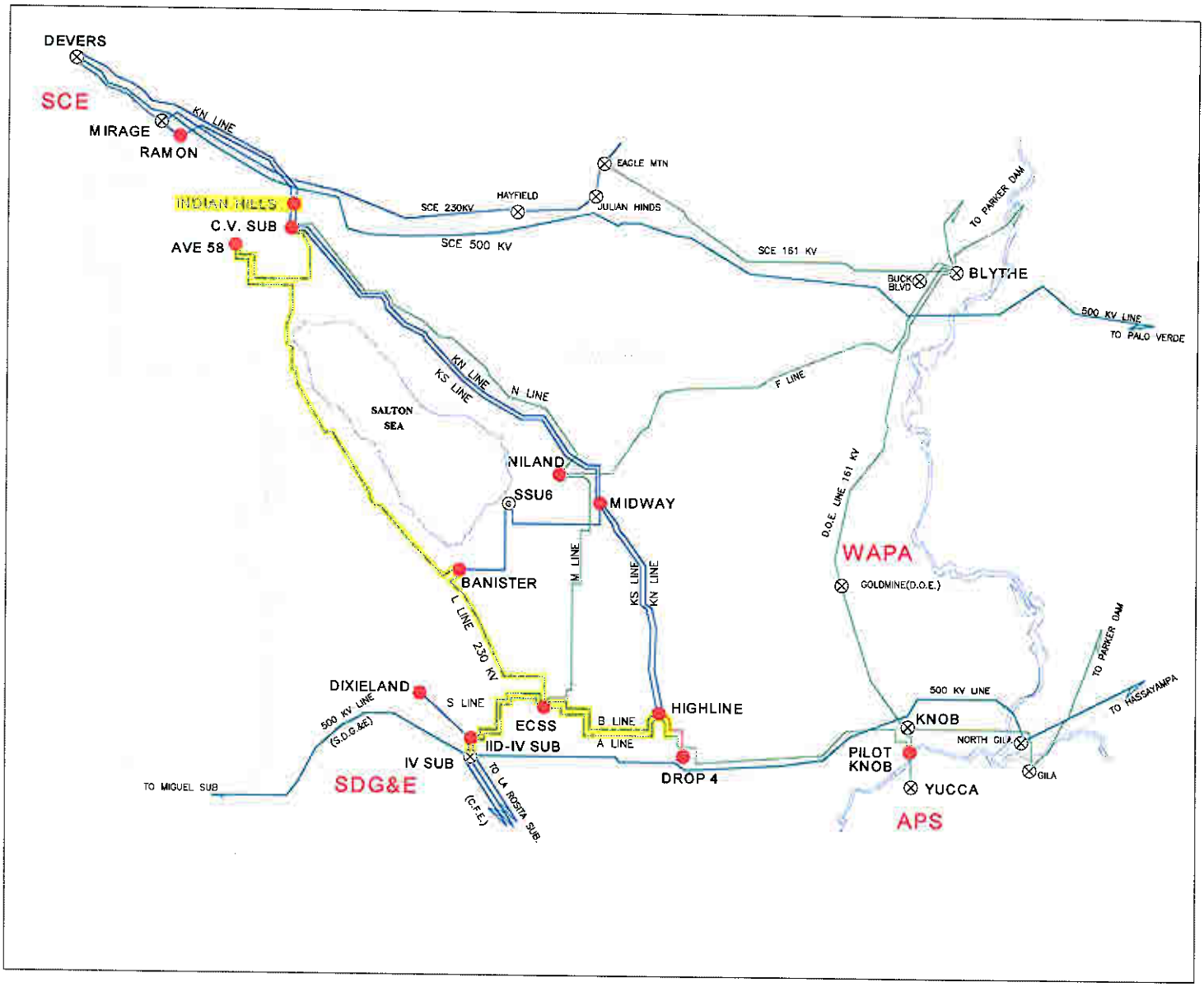


Figure 2

Transmission Expansion Plan



PROJECT JUSTIFICATION

Imperial Irrigation District ("IID") currently utilizes 540 miles of high voltage transmission system (161kV and 230kV) to deliver the bulk power deliveries received from external (i.e. Palo Verde, Parker-Davis, and San Juan) and internal (i.e. El Centro, Rockwood, Hydro power) resources to bulk receiving stations located around the IID service territory. The majority of the transmission system (310 miles) is currently operated at a voltage of 161kV. The 161kV transmission system was originally built in 1940-50s as part of the expansion of the Western Area Power Administration transmission system to deliver power for the regional irrigation districts from the Parker-Davis generating facilities. This system has helped to meet the load serving requirements for IID for over 50 years. However, as the load continued to grow in all regions of the IID service area, the need and plans to upgrade this transmission system has been reviewed for several years. The existing system has recently experienced additional stresses due to generating resources constructed near the edge of the IID service territory (i.e. Blythe and IV/Mexico generation) as well as with the installation of CE's 215 MW Salton Sea Unit 6 and El Centro U#3 Repowering as shown in power flow studies. While IID continues to manage these additional unscheduled flows and new generation resources additions at the operations level, IID continues to experience additional losses and reductions in voltage profile as this system continues to be stressed.

In the 1983, a new 230kV, double circuit transmission system was constructed for the primary purpose of delivering over 500MW of "power generating facilities" (a.k.a. PGF resources, mostly consisting of renewable resources) contracted to Southern California Edison ("SCE"). Over the last several years, and with the repayment of the 230kV system completed, IID has continually integrated the 230kV system into the IID transmission network capable of delivering the contractual obligations and to meet the load serving requirements of the IID control area. Currently, IID receives approximately $11.5M/year in transmission wheeling service revenue from the PGF's to provide this transmission delivery path from the resources to point of receipt on the SCE system.

Over the last few years, IID has reviewed and developed detailed long-term (defined as a minimum of ten years) transmission plans that would meet the load serving requirements of IID. The plans primarily have focused on the upgrades of the 161kV system to 230kV and to fully integrate the existing 230kV transmission radial transmission system into a 230kV transmission network. These transmission upgrades and improvements to increase the import capability together will increase the reliability (and voltage profile) and the ability for IID to meet its load serving needs for at least the next 10-15 years.

The recently approved California's Renewal Portfolio Standard mandate have increased the demand and interest in developing new geothermal renewable resources in the California, specially the ones located in Imperial Valley's Salton Sea area. In October 2004, the California Energy Commission and IID had concluded that a long-term transmission study effort should be initiated to determine transmission issues related to delivering over 2000MW of additional renewable resources out of the Imperial Valley.

This effort is known as the Imperial Valley Study Group ("IVSG"). With the completion of the IVSG effort coming to an end, it is clear that the proposed IID long-term transmission needs of both IID for load serving and to deliver over 2000MW of new renewable resources to the IID interconnection points with adjacent transmission systems. While the development of the renewable resources has been slow due to execution of power purchase contracts with the regional load serving utilities, IID should continue to move forward with the long-term transmission plans and accelerate segments to facilitate additional resource deliveries and reinforce the reliability requirements to serve IID customers.

PROJECT SCOPE:

1. Retain appropriate Environmental Consulting to obtain all permits and regulatory approvals required to construct the Project,
2. Preliminary engineering and design support for the permitting effort,
3. Perform system studies as appropriate for ratings and specifications for Project facilities,
4. Land management services for preliminary land costs and other pre-acquisition effort related to the Project,
5. Legal services as required in support of the permitting tasks,
6. Project Management services to be accountable for all tasks of Phase 1 and to prepare for future tasks associated with Phase 2 of the Project.
7. Complete the development phase by 12/30/06

REAL ESTATE REQUIREMENTS:

This authorization action is conditioned upon completion of all requirements specified in CEQA. This includes, but is not limited to an environmental assessment, an environmental impact review, or negative impact declaration.

ENVIRONMENTAL COMPLIANCE:

This authorization action is conditioned on completion, prior to commencement of work, of all requirements specified in the California Environmental Quality Act (CEQA), the Endangered Species Act (ESA) or other applicable environmental or wildlife resource laws. IID's Environmental Compliance Section (ECS) will review any of the proponent's environmental documentation to determine compliance with existing environmental regulations.

PROJECT FINANCING/ACCOUNTING

Project's Funding Source:

Funding for this project has been allocated in the 2005 and 2006 Capital Budget and reviewed by the Energy Budget Administration.

The project cost has been estimated at $3,000,000. Included in the total cost is $300,000 for contingencies.

The project team will revise the total funding amount upon completion of the project development phase.

Estimated Summary of Probable Costs is:

ACTIVITY	COST
Retain appropriate Environmental Consulting to obtain all permits and regulatory approvals required to construct the Project,	$1,000,000.00
Preliminary engineering and design support for the permitting effort,	$1,000,000.00
Perform system studies as appropriate for ratings and specifications for Project facilities,	$200,000.00
Land management services for preliminary land costs and other pre-acquisition effort related to the Project,	$300,000.00
Legal services as required in support of the permitting tasks,	$300,000.00
Project Management services to be accountable for all tasks of the development phase of the project	$200,000.00
Subtotal $	3,000,000
Contingency $	300,000
Grand Total $	3,300,000

COST-BENEFIT ANALYSIS AND RISK ASSESSMENT

The estimated cost of the transmission upgrades described herein is $148 million. As what normally happens with this kind of Cost-Benefit analysis, the value of upgrading a transmission system to provide reliable service and assure the ability to meet IID's load for at least the next 10-15 years, is hard to quantify moneywise. The following are the project's expected benefits:

Project Benefits:

SUPPORT TO IID'S SYSTEM RELIABILITY AND LOAD GROWTH

- The increase in the transmission lines' voltage and conductor capacity will improve the system reliability by enhancing the ability to deliver the energy to the load centers more efficiently (less transmission losses).
- The integration of the 230 kV collector system into the southern portion of our system will increase the voltage support to the Imperial Valley area.
- The creation of a two 230 kV loops; one around the Salton Sea and another one encircling most of the Imperial Valley with the integration of the new geothermal generation in the Salton Sea area will significantly increase the reliability and voltage support for the Imperial and Coachella Valley.
- These transmission upgrades and improvements will increase IID's import/export capability and enhance IID's ability to meet its load serving needs for at least the next 10-15 years.

Additional Benefits

- Another important benefit of IID's Transmission Expansion Plan is the fact that the same transmission upgrades had been identified by the Imperial Valley Study Work Group (IVSG) as needed to support the development of new renewable generation resources in IID Service area.
- An important synergy occurs from these two projects since IID needs the transmission capacity to take the energy to our load centers in Imperial and Coachella Valley, and the new renewable generation resources need the transmission to export the energy to load serving entities in California and to the East in Arizona and potentially New Mexico and Nevada.
- A significant amount of Available Transmission Capacity will be created with the subject upgrades. It is anticipated that this capacity will be utilized by the new renewable generation resources already identified by the Imperial Valley Study Group. 645 MW, or three new 215 MW geothermal generating units, have been identified as feasible to be installed before year 2011.
- The availability of additional transmission capacity from the upgrades will promote the development of new renewable generation resources especially in the Imperial Valley area, with the associated economic development (property taxes, services, etc) and creation of new jobs in the region.

- Using IID's OATT current transmission wheeling rate of 1.69 $/kw-month and assuming a firm point to point transmission contract, for every 100 MW of transmission wheeling service an income of $2.028 million per year can be expected.

Risk Assessment

- Although almost 100% of the 161 kV transmission line upgrades will utilize existing Right of Ways (ROW), the conversion to higher voltage (230 kV) will require additional ROW. The required additional ROW will be at least "50" feet wide through the length of the line.
  The biggest risk associated with delaying the upgrade of the subject transmission facilities is that with the tremendous growth experienced in Imperial and Coachella Valleys; new developments are encroaching into our existing lines ROW, making it extremely difficult and expensive to obtain the required additional right of way in the near future.
  A good example of this situation is the "KS" 230 kV line Loop into Ave. 42 Substation. In 1999, IID tried to obtain a 2.5 mile, 120 feet wide of ROW from a landowner, who refused to give us the ROW and IID used its Eminent Domain capacity. After 2 year of depositions, legal expenses and hurdles (almost $1 million in staff, legal and consulting fees) the Board of Directors declined to go with this option and decided to implement a less effective solution.
- By not implementing this project, it is anticipated that IID's transmission system reliability will degrade in the near future, as well as our capacity to deliver energy to our customers. Also, the development of new renewable generation resources in the area will be jeopardized and delay by not having sufficient transmission capacity to deliver the energy to the load serving entities outside IID control area.

PROJECT TEAM

Chief Financial Officer.....

Department Manager..... **Glenn O. Steiger**

Project Owner..... **J. C. Sandoval**

Project Leads:

Project Planning Engineer..... **David Barajas**

Project Manager..... **Eddie Lutz**

Project Engineer (T & S)..... **Oscar Kebriti**

Project Management Coordinator..... **Walter Gonzales**

Project Budget Coordinator..... **Corina Jaramillo**

Environmental Compliance ..... **Mike Remington**

Real Estate ..... **Jim Kelley**

PROJECT AUTHORIZATION
SIGN-0FF SHEET

J. Federwisch for Glenn Steiger — 11/9/2005
Manager, IID Energy **Date**

Maria Ening-Caldera — 11/9/05
Chief Financial Officer **Date**

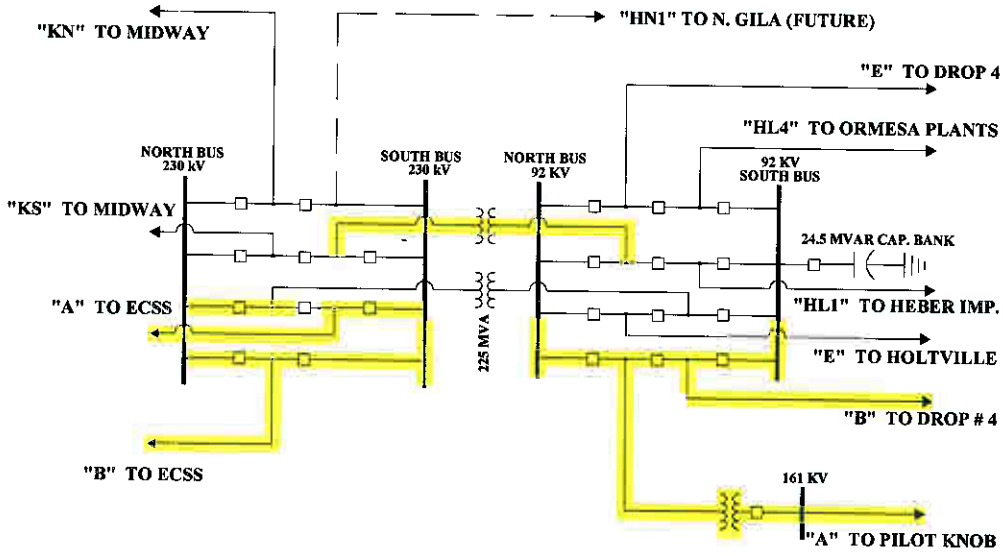
Ethel K. Landrum — 11/10/2005
General Manager **Date**

Vice **President, Board of Directors** — 11-15-05
Date

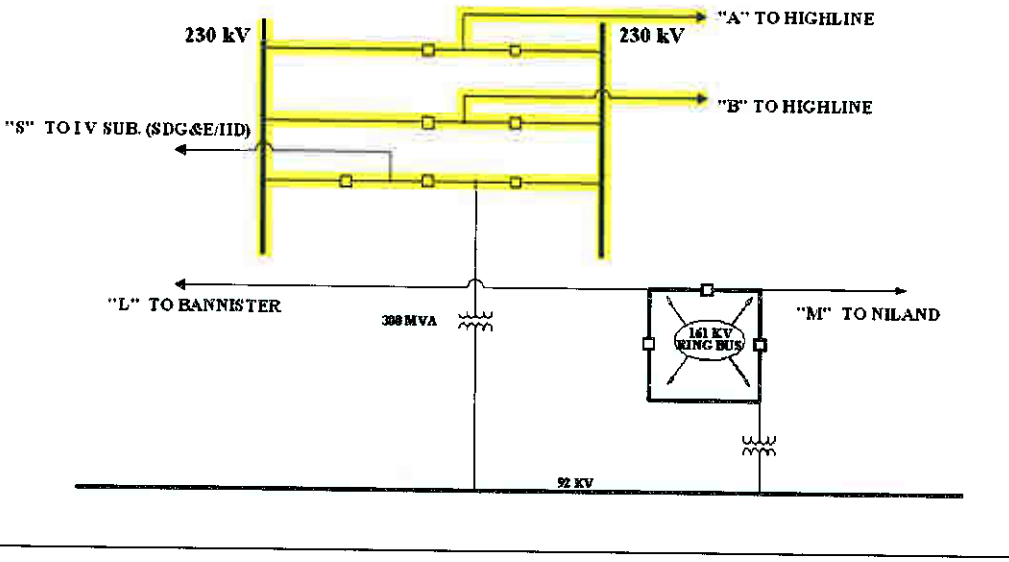
IMPERIAL IRRIGATION DISTRICT ORGANIZED JULY 25, 1911 EL CENTRO, CALIFORNIA

Appendix A - Conceptual One-Line Diagrams

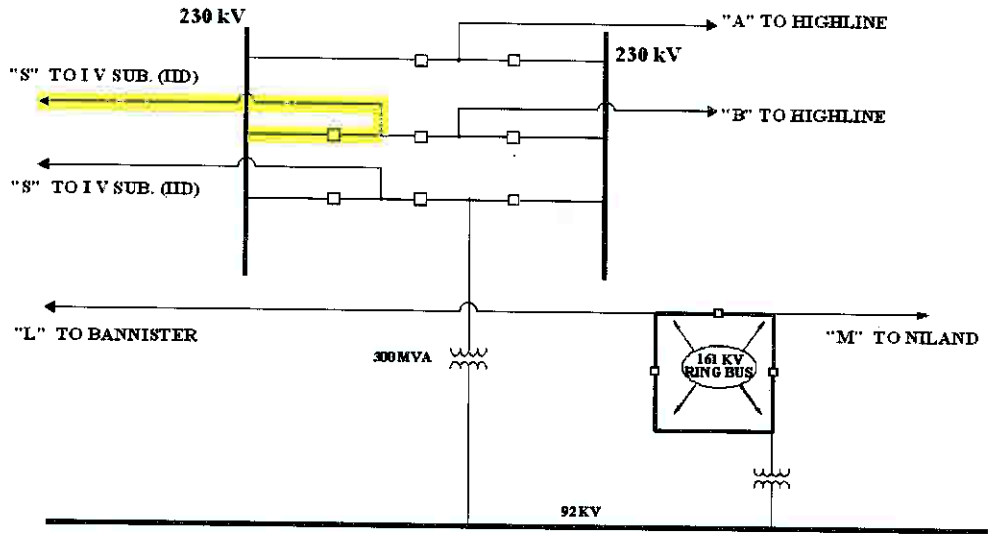
HIGHLINE SUB. PHASE #1



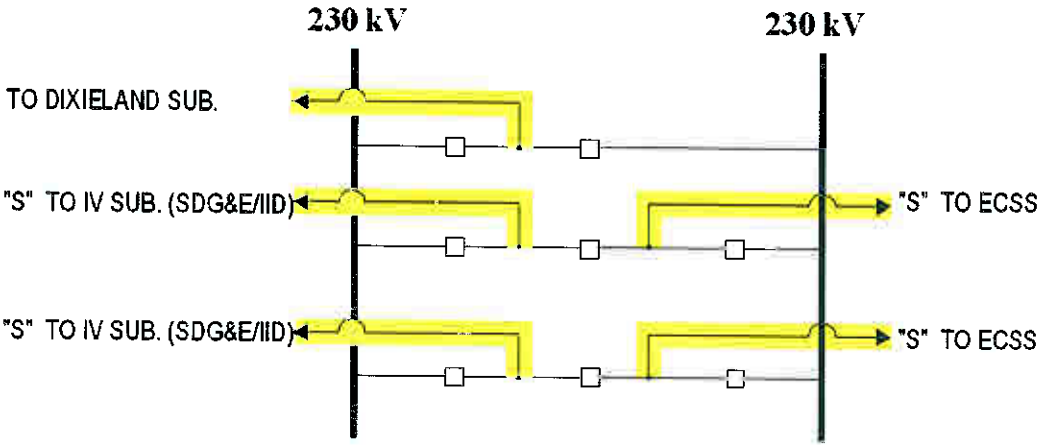
ECSS SUBSTATION PHASE #1



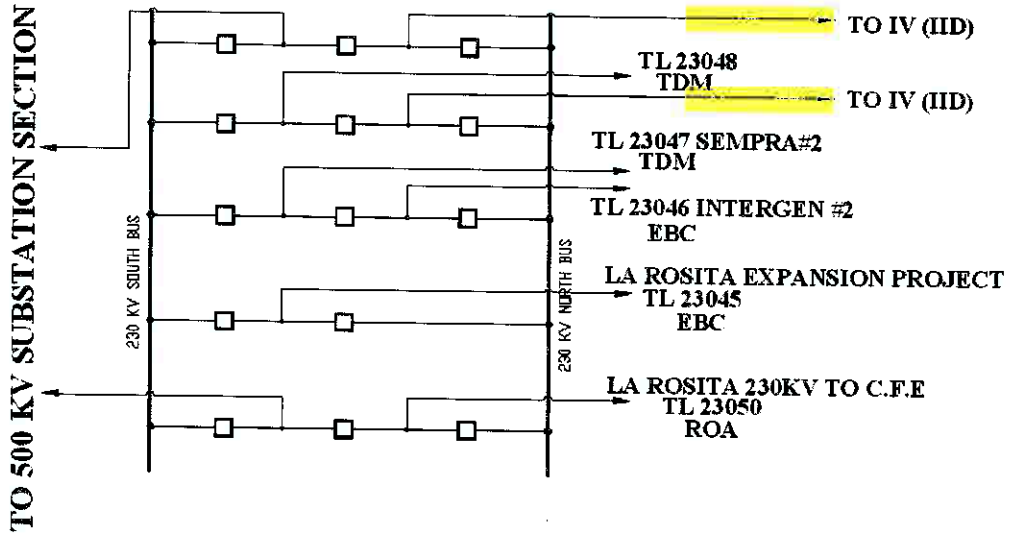
ECSS SUBSTATION PHASE #2



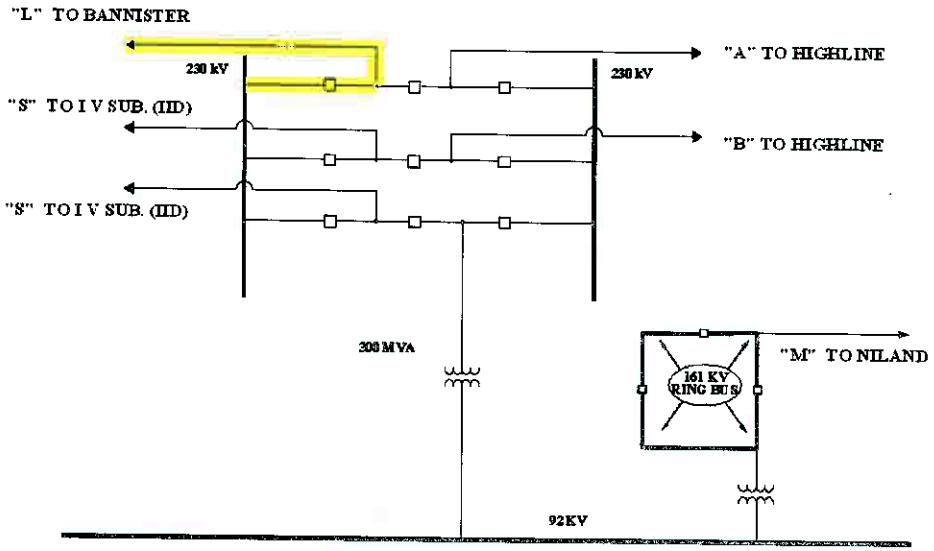
IV SUB. (IID) PHASE #2



IV SUB. (SDG&E) PHASE #2



ECSS SUBSTATION PHASE #3



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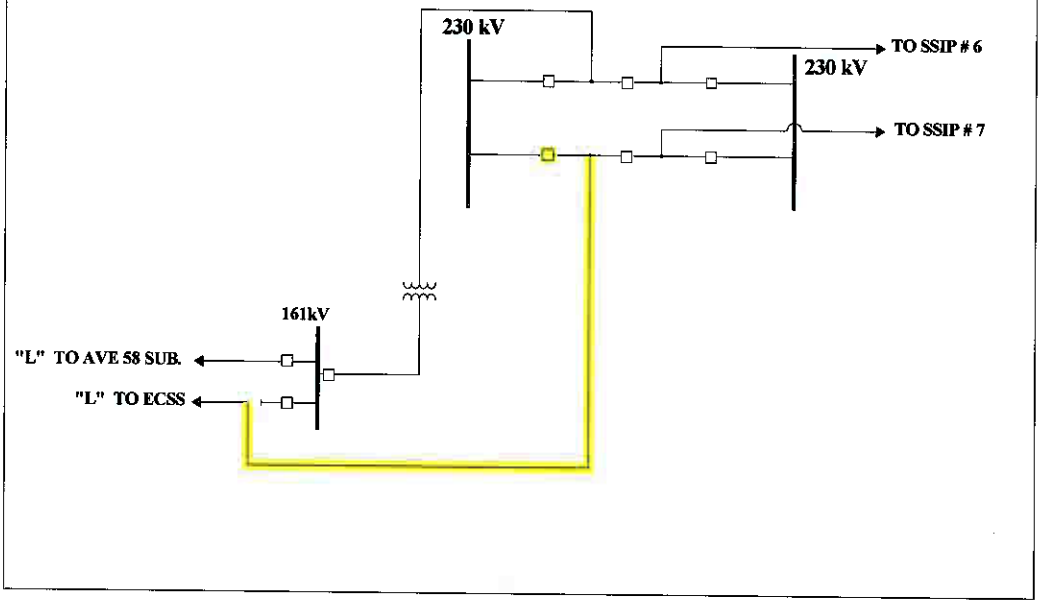

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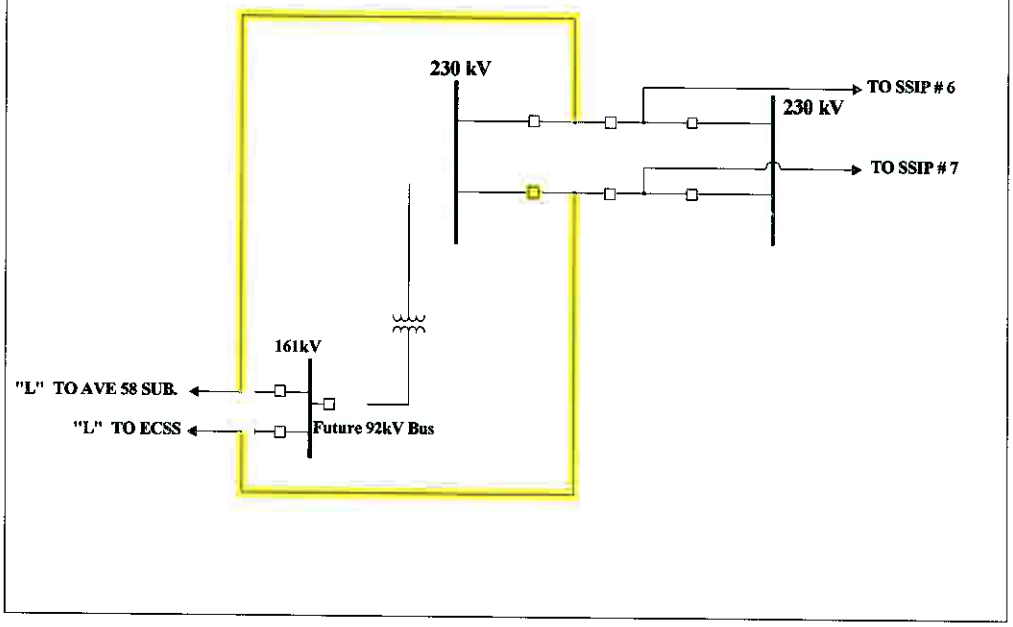
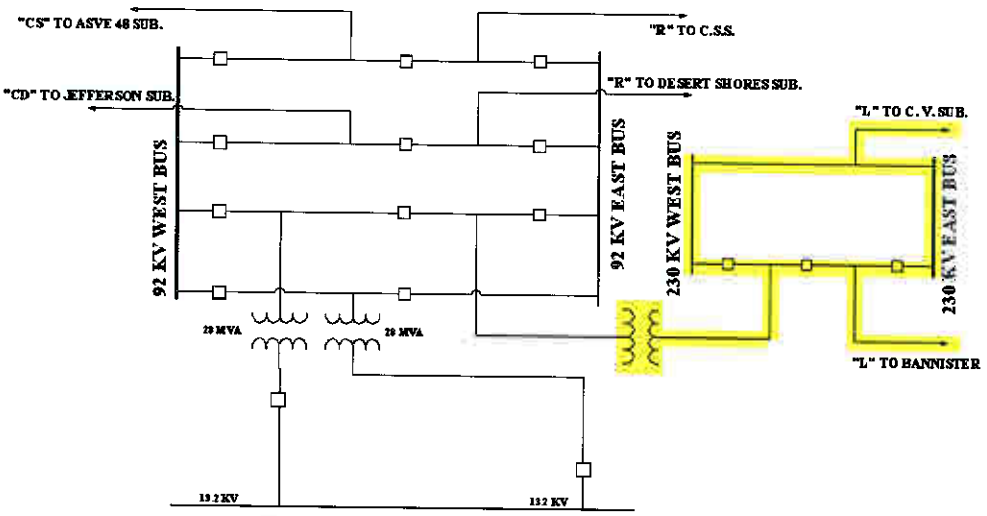
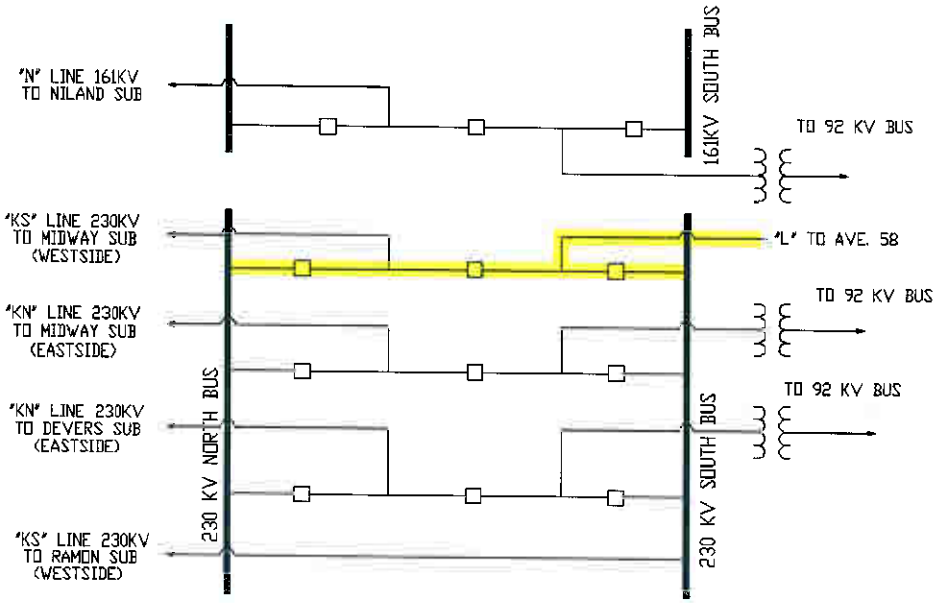


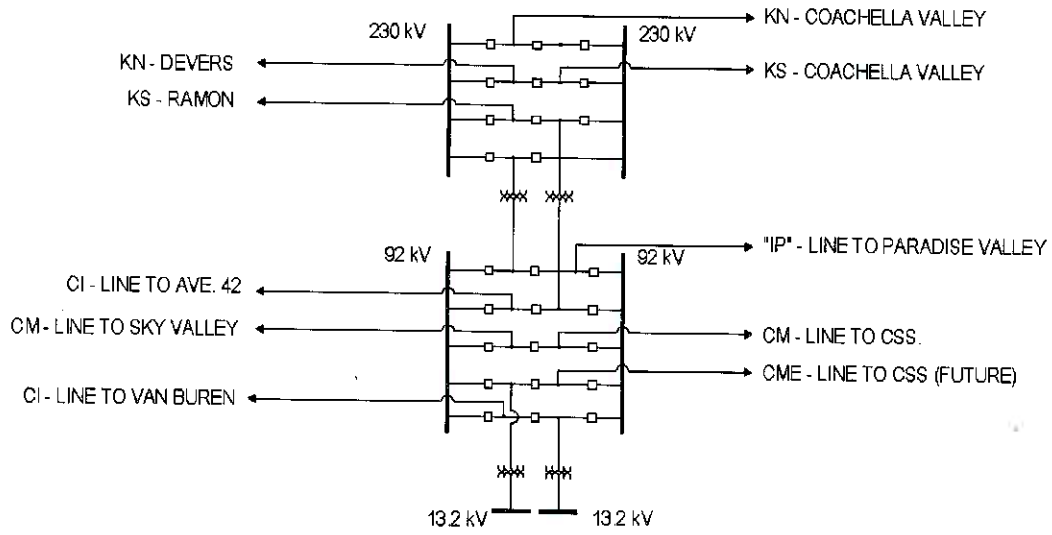
AVE 58 SUB. PHASE 4



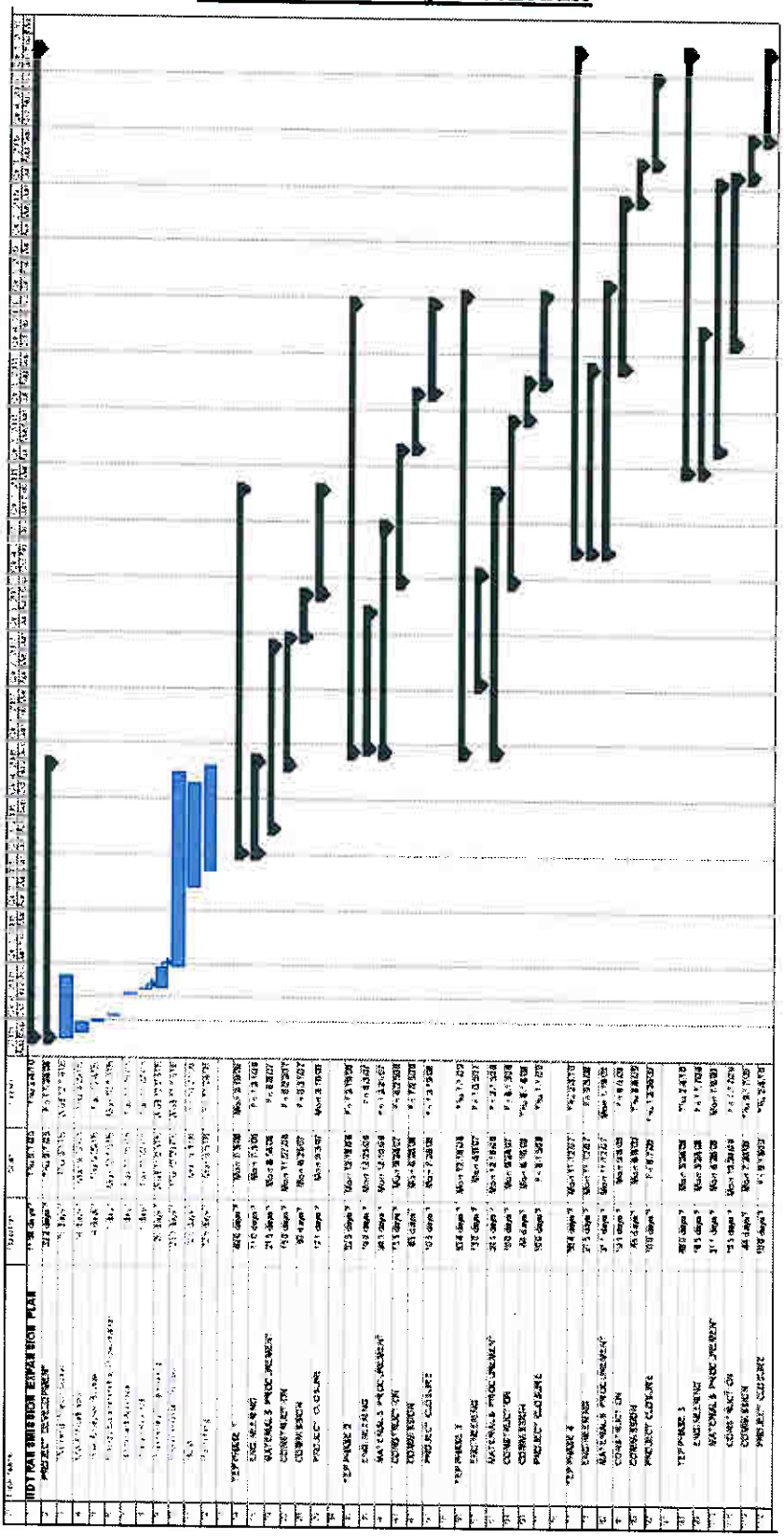
COACHELLA VALLEY SUB PHASE 4



INDIAN HILLS SUB. PHASE 5



Appendix B – Project Schedule



Imperial Irrigation District

Summary of Investigation

WECC Path 49 Short Term Upgrades (8055 MW)

2007 Addendum to Original Report on

Special Protection Scheme for Protection of the IID El Centro 230/161kV Transformer

Prepared by
Imperial Irrigation District

August 7, 2007

TABLE OF CONTENTS

Executive Summary

The findings from this analysis support that a Special Protection Scheme ("SPS") is still a valid interim solution to mitigate overloads experienced in the southern portion of the IID transmission service area for the loss of the Imperial Valley – North Gila 500kV line through 2009.

The findings also support that the proposed Path 49 Short Term Upgrades rating of 8055MW is not impacted by the interim implementation of the SPS

The original study conducted in late 2005 identified the opening of the Imperial Valley – El Centro 230kV line as the SPS for the loss of the Imperial Valley – North Gila 500kV line to protect El Centro 230/161kV transformer. The result of the current studies validates the continued use of the SPS as an interim solution for protection of the southern portion of the IID transmission service area through 2009 while not impacting the Path 49 8055MW rating.

I. Introduction

The purpose of the studies was to validate the SPS that was identified in the 2005 original report through 2009. IID has identified several transmission upgrades to the southern portion of the IID transmission service area that could have an impact on the SPS that was identified in late 2005 in the original report to the WECC/WATS PRG for the Path 49 Short-Term Upgrades Project. Prior to any upgrades of the IID system taking place, the SPS has been validated through 2009 through this study effort.

Without any of the planned upgrades the limiting element is the El Centro 230/161kV transformer. The planned upgrades include the installation of El Centro Bank 4, a 230/92kV transformer that is expected to be in operation by late 2008. A 230kV transmission line extending from Imperial Valley substation to Dixieland substation along with a 230/92kV transformer located at Dixieland is proposed to be in operation by late 2009. In addition to the upgrades IID has planned for the relocation of the 230/161kV transformer located at El Centro.

II. Study Assumptions and Methodology

The SPS analysis summarized in this report included one primary Path 49 case that was approved through the WECC Regional Planning Rating Process, specifically SCE's 2009 Light Autumn Path 49 8055MW case (Pre-PVD2 Project case). This case has been reviewed and approved through the WECC/Western Arizona Transmission Studies ("WATS") Peer Review planning group. Per the request of both SDG&E and IID on the WATS conference call of April 17, 2007 SDG&E was allowed to insert an updated representation in the approved case supplied by CAISO and IID modeled its transmission and generation updates to the case to more accurately reflect the anticipated systems for 2009. The following is a list of IID and SDG&E's transmission and generation updates to the cases:

IID Transmission and Generation Updates to Approved Case

- CEU 1 Gen Status Off and related POS (173MW) 2007
- Niland Generation On (100MW) 2008
- El Centro Bank 4 230/92kV 300MVA Transformer 2008
- IV-Dixieland 230kV Line 2009
- El Centro Repower Unit 3 On (85MW) 2009

SDG&E Transmission and Generation Updates to Approved Case

- Reconductor Shadowridge – Calavera 138 kV line 2009
- Reconductor Talega – Pico 138 kV line 2009
- Reconductor Division – Naval Station 69 kV line 2008
- Updated Lake Hodges pump storage 2008
- Reconductor Escondido – Felicita Tap 69 kV line 2009
- Updated Otay Mesa generation and transmissions 2009
- New Silvergate Substation 2008
- Modified impedances for Miguel – Sycamore 230 kV and Miguel – OldTown 230 kV line to reflect latest data.
- Updated configuration for Miguel-Sycamore 230 kV
- Updated configuration for Miguel-Old Town 230 kV
- Updated Penasquitos 230/138 kV bank data
- Other updates
    - South Bay Area 69 kV system
    - Bus voltage adjustments
    - SWPL line impedance
    - SDG&E load at load buses

From the supplied case, four base cases were created to show timing of upgrades and their impacts. The following table summarizes the cases that were run for this analysis:

Table 1: Summary of Cases

Case	Upgraded Elements	IV Gen	Blythe Gen
Case 1 (2008 Base)	None	425MW	360MW
Case 2 (2009 Base)	EC Bank 4 (230/92kV)	425MW	360MW
Case 3 (2009)	EC Bank 4 IV-Dixieland 230kV Line	425MW	360MW
Case 4 (2009)	EC Bank 4 IV-Dixieland Removed EC Bank 1 (230/161kV)	425MW	360MW

In addition to the initial four Base cases developed, cases depicting various levels of IV generation were created to study the impact generation from Imperial Valley has on the IID overloads caused by the IV – North Gila 500kV outage. IV generation levels from 0 to 350MW in 50MW increments were used to develop an overload table that would show the impact the IV generation has on overloading of elements in the southern portion of the IID transmission service area. The IV generation level cases were constructed for all four cases listed in Table 1. These tables are located in appendix D.

III. Findings

The investigation of the interim use of an SPS to protect the southern portion of the IID transmission service area did find that the SPS as identified in the 2005 report is still valid through 2009 under most conditions.

Without any additional upgrades to the IID system the limiting element is the 230/161kV transformer located at El Centro. This element overloads to a minimum of 165% and varies with different IV generation levels. Operation of the SPS will mitigate the overloads experienced during an IV-N.Gila 500kV Line outage.

IID's El Centro Bank 4, a 230/92kV transformer, is expected to be in operation by late 2008. The most significant limiting element after the addition of Bank 4 is the IV-El Centro 230kV line during an IV-N.Gila 500kV outage. The IV-El Centro 230kV line overloads to 125% in the base case and to 135% with 0MW of IV generation. During an IV-N.Gila outage and 0MW of IV generation the El Centro Bank 4 transformer experiences overloading of 106%. The Bank 4 overload is also affected by the amount of

flow on the SWPL line prior to the outage. The approximate ratio of additional overloading is 7% for every 100MW of flow above 1520MW. The operation of the SPS under these conditions will mitigate the overloads experienced. The SPS is intended to be a temporary solution through 2009 at which time a long term solution must be in place.

With the addition of the IV – Dixieland 230kV line and its associated 230/92kV transformer which is proposed to be in operation in late 2009[1], the limiting element will be the El Centro-Pilot Knob 161kV line for an IV-North Gila outage. The overload of this element varies with different levels of IV generation. The line experiences overloading as IV generation decreases with 109% overloading occurring with 0MW of generation during an IV-North Gila outage. Please note that the IV generation is relatively new plants, therefore, its generation output is not likely to be 0MW. If IV generation is at or above 400MW during an IV-North Gila 500kV outage an SPS will not be operated for these conditions. Operating the SPS will cause overloading to occur on the El Centro and Dixieland 92kV sub-systems.

IID's expansion plans include the relocation of the 230/161kV transformer (Bank 1) located at the ECSS. The relocation of the ECSS 230/161kV transformer would cause the most significant limiting element to become the 161/92kV transformer at El Centro. This element overloads to 117% in the base case and overloads to 131% with 0MW of IV generation during an IV-North Gila 500kV outage. The Bank 2 overload is also affected by the amount of flow on the SWPL line (Imperial Valley – Miguel 500kV) prior to the outage. The approximate ratio of additional overloading is 7% for every 100MW of flow above 1520MW. Operation of the SPS causes overloading in the El Centro and Dixieland 92kV sub-systems regardless of the IV generation level studied if the existing 230/161kV transformer at ECSS is relocated. Therefore, a long term solution must be in place prior to when the ECSS 230/161kV transformer is relocated.

The analysis indicates that there are overloads occurring in the looped 161kV system, specifically in the Pilot Knob area. These overloads are as high as 109% and are experienced in all cases. The overloads vary with different IV generation levels. The SPS operation will mitigate the overloads. Additional analysis will take place in the next phase of the study to ensure that the permanent solution will mitigate the 161kV overloads.

The analysis also indicates that the SPS does not impact regional transmission system, specifically CFE and SDG&E, and can provide the interim protection to the southern portion of the IID transmission service area until a long term solution can be in operation. This long term solution is required to be in operation when either IID initiates the relocation of the ECSS 230/161kV transformer or before the end of the year 2009, whichever occurs before. IID considers the SPS to be an interim solution until the permanent solution is implemented.

Please refer to the specific appendix for the supporting material for these findings.

[1] IID is currently going through environmental and real estate studies associated with this proposed upgrade

IV. Conclusions

The SPS is a valid interim solution to protecting the southern portion of the IID transmission service area through 2009 prior to IID completing its internal upgrades and relocation of the existing 230/161kV transformer at ECSS. Beyond 2009 if IID completes the proposed upgrades within the IID system and successfully relocates the existing 230/161kV transformer at ECSS to another location, the interim SPS then may not be able to mitigate the potential overloading concerns. By then either a permanent mitigation will need to be completed. The evaluation for the longer term (i.e., beyond 2009 time frame) need of a permanent solution will be jointly evaluated in the next study phase by the CAISO, SDG&E, and IID team.

2009 Scenario's

Case 2 (Bank 4 installed)

- The SPS is required to be operated for loss of IV-North Gila 500kV

Case 3 (Bank 4, IV-Dixieland 230kV)

- IV generation 400MW or above - SPS required but may not be operated for loss of IV-North Gila 500kV
- IV generation below 400MW – Overloading of the El Centro-Pilot Knob 161kV line to 109% depending on IV generation level.
- Operation of the SPS causes cascading overloads in the El Centro-Dixieland 92kV Sub-System

Case 4 (Bank 4, IV-Dixieland 230kV, Bank 1 Relocated)

- Long term solution required due to overloading caused by operating the SPS regardless of IV generation level

Path 49 Short-Term Upgrades

IID/SDG&E/CAISO Updates on the Interim SPS and the Imperial Valley Phase Shifters Study Results

WECC/WATS Meeting
July 31, 2007

David Barajas (IID)
Brad Bentley (SDG&E)
David Le (CAISO)

Review of SPS Through 2009 Conclusions

- SPS is Valid on the existing system configuration through 2009
- IID planned upgrades do not mitigate the need for a long term solution
- SPS operation is dependent on IV Generation Level

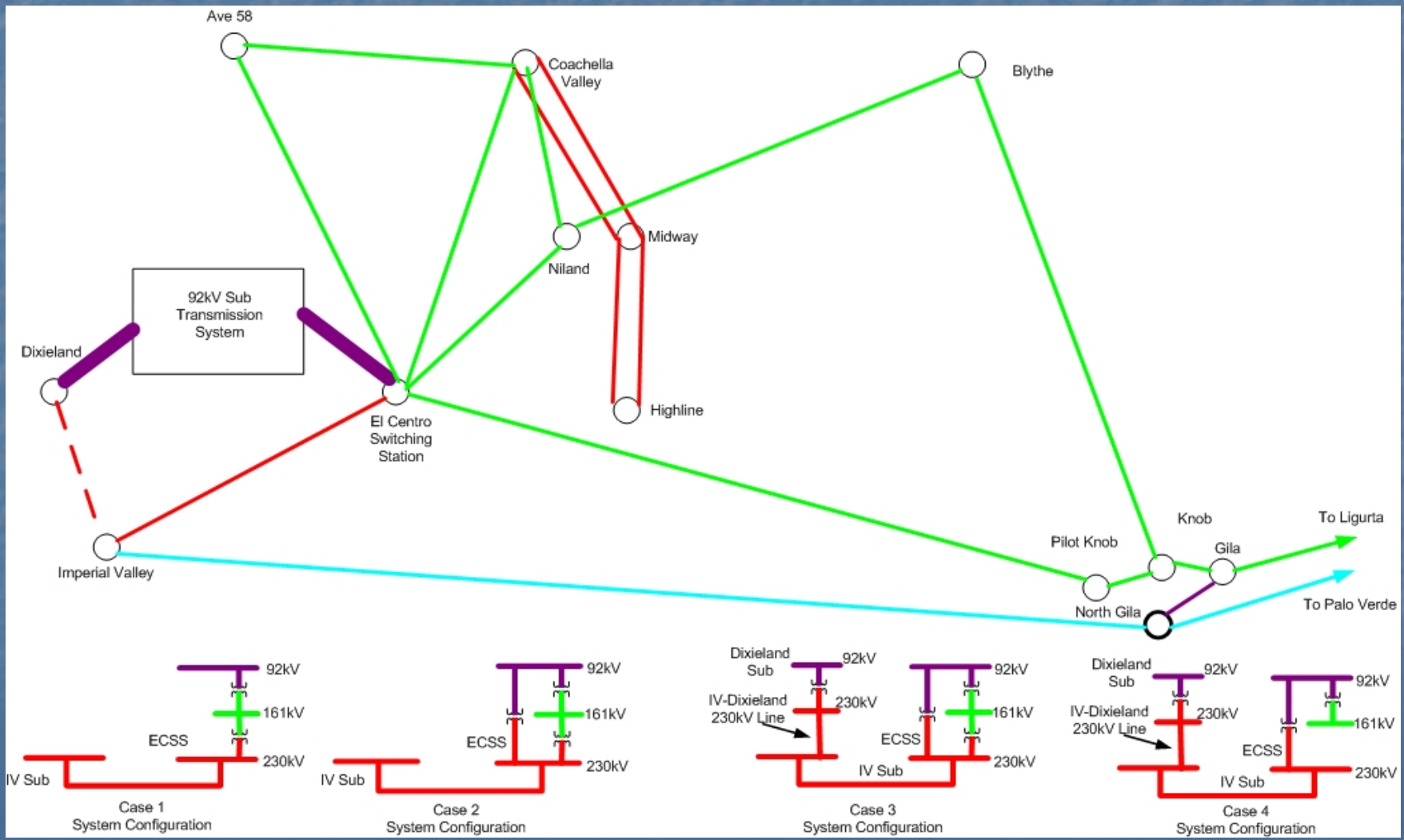
Base Case Development

- 4 Base Cases created for study
  - Base Cases for 2008 and 2009 system configuration
  - Base Cases include planned IID Upgrades
- IID and SDG&E system configuration changes are reflected in the original 8055 EOR case as were approved on April 17th WATS Conference Call
- All Cases maintain 8055MW EOR flow prior to IV-N.Gila 500kV Outage

IID's Transmission Plan Upgrades

- 2008
  - El Centro Bank 4 – 230/92kV Transformer December 2008 (Case 2)
- 2009
  - IV-Dixieland 230kV Line and associated 230/92kV transformer (Case 3)
  - Relocation of El Centro Bank 1 – 230/161kV Transformer (Case 4)

IID's Transmission System and Planned Upgrades



Results of Studies
Case 1

- Current System
  - SPS is required for the loss of IV-N.Gila 500kV Line to protect the southern portion of the IID Transmission System
  - El Centro Bank 1 (230/161kV) is the most limited element, overloads to 165% (225MVA Rating)
  - El Centro Bank 2 (161/92kV) overloads to 142% (125MVA Rating)
  - The Pilot Knob-ECSS 161kV Line overloads to 108%

Results of Studies
Case 2

- Bank 4 (230/92kV 300MVA) Upgrade
  - SPS is required for the loss of IV-N.Gila 500kV Line to protect the southern portion of the IID Transmission System
  - IV-El Centro 230kV Line is the most limited element, overloads to 125% (370MVA Rating)
  - Pilot Knob-El Centro 161kV Line overloads to 104% (165MVA Rating)

Results of Studies
Case 3

- Bank 4, IV-Dixieland 230kV Upgrade
  - Pilot Knob-El Centro 161kV Line overloads to 106% (165MVA Rating)
  - The operation of the SPS creates additional cascading overloads in the IID system
    - Overloads on Dixieland 230/92kV Transformer
    - Overloads on El Centro-Dixieland 92kV Sub-System

Sensitivity Analysis Case 3

- Sensitivity analysis were performed decreasing IV generation and displacing with internal SDG&E generation
- IV-El Centro 230kV line overloads up to 104% with 0MW IV Generation
- El Centro-Pilot Knob 161kV line overloads up to 109% with 0MW IV Generation

Results of Studies
Case 4

- Relocation of El Centro Bank 1 (230/161kV)
  - El Centro Bank 2 (161/92kV) overloads to 117% (125MVA Rating)
  - The operation of the SPS creates additional cascading overloads in the IID system
    - Dixieland 230/92kV Transformer
    - El Centro-Dixieland 92kV Sub-System

Sensitivity Analysis Case 4

- Sensitivity analysis were performed decreasing IV generation and displacing with internal SDG&E generation
- El Centro Bank 4 (230/92kV) overloads up to 109% with 0MW IV Generation
- El Centro-Pilot Knob 161kV line overloads up to 104% with 0MW IV Generation

Conclusions

- The SPS is a valid interim solution to the protection of the southern portion of the IID Transmission System through 2009
- Beyond 2009 a permanent form of mitigation must be in place

Next Steps

- CAISO, SDG&E, and IID teams to perform long term studies to determine a permanent solution

MJK - sent via email 12/13/06 - Mark Hammer & Fadi Ceperano

GENERAL OFFICE
333 E. BARIONI BLVD
IMPERIAL, CA 92251-1181

IMPERIAL IRRIGATION DISTRICT

POST OFFICE BOX 937, IMPERIAL, CALIFORNIA 92251-0937

PURCHASING OFFICE
235 E. BARIONI BLVD
IMPERIAL, CA 92251-1181

AREVA T&D
1 POWER LANE
CHARLEROI, PA 15022

Purchase order

PO number/date
4500033270 / 11/09/2006
Our reference
BID 06-39

Your person responsible
Mark Hammer
Your reference
BID 06-39

COACHELLA POWER DIVISION
81-600 AVENUE 58
LA QUINTA, CA 92253

Your vendor number with us
10004679

SHIP TO:
JOBSITE
USA

BILL TO:
P.O. BOX 937
IMPERIAL, CA. 92251-0937

Terms of deliv.: FOB Jobsite as required
Terms of payt.: Within 30 days Due net
Change Order #2 - 12/13/2006

Currency USD

THE IMPERIAL IRRIGATION DISTRICT IS SUBJECT TO CALIFORNIA SALES AND USE TAX BUT IS EXEMPT FROM PAYMENT OF FEDERAL EXCISE TAX

Item	Material / Order qty.	Unit	Description / Res/Req	Price per unit / Req. Date	Costelement	Net value	Account
			10119612	11/01/2006	4023732		531000
00010	596,800 358,080 89,520		300 MVA Transformer 230kV/92kV Dixieland				
	2,984,000	each		1.00		2,984,000.00	
	Deliv. date	Day 11/12/2007					
			10119610	11/01/2006	4023729		531000
00020	596,800 358,080 89,520		300 MVA Transformer 230kV/92kV ECSS BK4				
	2,984,000	each		1.00		2,984,000.00	
	Deliv. date	Day 11/14/2008					
			10120230	12/01/2006	4023732		531000
00030			300 MVA Xfmr Spare Part - HV Bushing				
	1	each		14,310.00		14,310.00	
	Deliv. date	Day 11/12/2007					

HV Bushing, Part Number - TCT 166/06 PAO.230.1050.2000 Passoni & Villa

REFER ALL QUESTIONS ABOUT THIS ORDER TO:
Donna Gray

TEL: 760-339-9253 FAX: 760-339-9470

Donna M. Gray
PURCHASING AGENT
4500033270

NO CHANGES MAY BE MADE TO THIS ORDER WITHOUT APPROVAL OF THE PURCHASING AGENT OR BUYER WHOSE NAME APPEARS ON THIS ORDER

Purchase order number MUST appear on all packages, Bill of Lading, Shipping Notices, Invoices and Correspondence relative to this order

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AREVA T&D
1 POWER LANE
CHARLEROI, PA 15022

PO number/date
4500033270 / 11/09/2006

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Item	Material / Order qty.	Unit	Description / Price per unit	Net value	Res/Req	Req. Date	Costelement	Account
					10120231	12/01/2006	4023732	531000
00040			300 MVA Xfmr Spare Part - LV Bushing					
	1	each	15,470.00	15,470.00				
	Deliv. date	Day 11/12/2007						
	LV Bushing, Part Number - TCT 166/06 PAO.115.550.3000 Passoni & Villa							
					10120232	12/01/2006	4023732	531000
00050			300 MVA Xfmr Spr. Part- HV Neut. Bushing					
	1	each	2,430.00	2,430.00				
	Deliv. date	Day 11/12/2007						
	HV Neutral Bushing, Part Number - PAO.25.150.400/1200 Passoni & Villa							
					10120233	12/01/2006	4023732	531000
00060			300 MVA Xfmr Spr. Part - Buchholz relay					
	1	each	740.00	740.00				
	Deliv. date	Day 11/12/2007						
	Buchholz Relay, Part Number - TCT 166/06 EMB-BF80							
					10120234	12/01/2006	4023732	531000
00070			300 MVA Xfmr Spare Part - Air Breather					
	1	each	150.00	150.00				
	Deliv. date	Day 11/12/2007						
	Air Breather, Part Number - TCT 166/06 KS-SAC							

REFER ALL QUESTIONS ABOUT THIS ORDER TO:
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Donna M. Gray

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ID 304A1 (16th REVISION 1/95)

sapapp1-900

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AREVA T&D
1 POWER LANE
CHARLEROI, PA 15022

PO number/date
4500033270 / 11/09/2006

THE IMPERIAL IRRIGATION DISTRICT IS SUBJECT TO CALIFORNIA SALES AND USE TAX BUT IS EXEMPT FROM PAYMENT OF FEDERAL EXCISE TAX

Item	Material / Order qty.	Unit	Description / Price per unit	Net value
		Res/Req	Req. Date / Costelement	Account
		10120235	12/01/2006 4023732	531000
00080			300MVA Xfmr Spr Prt Conservator Membrane	
	1	each	1,400.00	1,400.00
	Deliv. date	Day 11/12/2007		
	Conservator Membrane, Part Number - TCT 166/06 Pronal			
		10120236	12/01/2006 4023732	531000
00090			300 MVA Xfmr Spare Acessories Cntl Cab	
	1	Set	1,100.00	1,100.00
	Deliv. date	Day 11/12/2007		
	Set of accessories for control cabinet, Part Number - TCT 166/06 Various			
		10120237	12/01/2006 4023732	531000
00100			300 MVA Xfmr Spare Set of Gaskets	
	1	Set	1,100.00	1,100.00
	Deliv. date	Day 11/12/2007		
	Set of Gaskets, Part Number - TCT 166/06 BUNA-N (Nitrilic-Rubber)			

Total net item val. excl. tax USD 6,004,700.00

Provide Two (2) each 300 MVA, Areva Substation Transformers in accordance with our complete Bid Invitation 06-39 package and your response thereto.

Change Order #1 - 11/29/2006
This change order corrects the contract value from $3,125,500.00 to $2,984,000.00 per unit in accordance with the Bid pricing for the units only.

REFER ALL QUESTIONS ABOUT THIS ORDER TO:
Donna Gray

TEL: 760-339-9253 FAX: 760-339-9470

Donna M. Gray
PURCHASING AGENT

NO CHANGES MAY BE MADE TO THIS ORDER WITHOUT APPROVAL OF THE PURCHASING AGENT OR BUYER WHOSE NAME APPEARS ON THIS ORDER

4500033270

Purchase order number MUST appear on all packages, Bill of Lading, Shipping Notices, Invoices and Correspondence relative to this order

IMPERIAL IRRIGATION DISTRICT

POST OFFICE BOX 937, IMPERIAL, CALIFORNIA 92251-0937

AREVA T&D
1 POWER LANE
CHARLEROI, PA 15022

PO number/date
4500033270 / 11/09/2006

Change Order #2 - 12/13/2006
Addition of line items 00030 - 00100 for spare parts order.

Approximately seventy-two (72) hours prior to delivery time, the successful bidder must notify Mr. Walter Gonzales, Project Coordinator, of the estimated delivery time at 760-427-7331 or email to wvgonzales@iid.com.

Delivery notification should also be made to Imperial Valley IID Receiving Section, 760-339-9285, for:
Item #00010 Dixeland Substation
Item #00020 El Centro Switching Station Substation

REFER ALL QUESTIONS ABOUT THIS ORDER TO:
Donna Gray

TEL: 760-339-9253 FAX: 760-339-9470

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